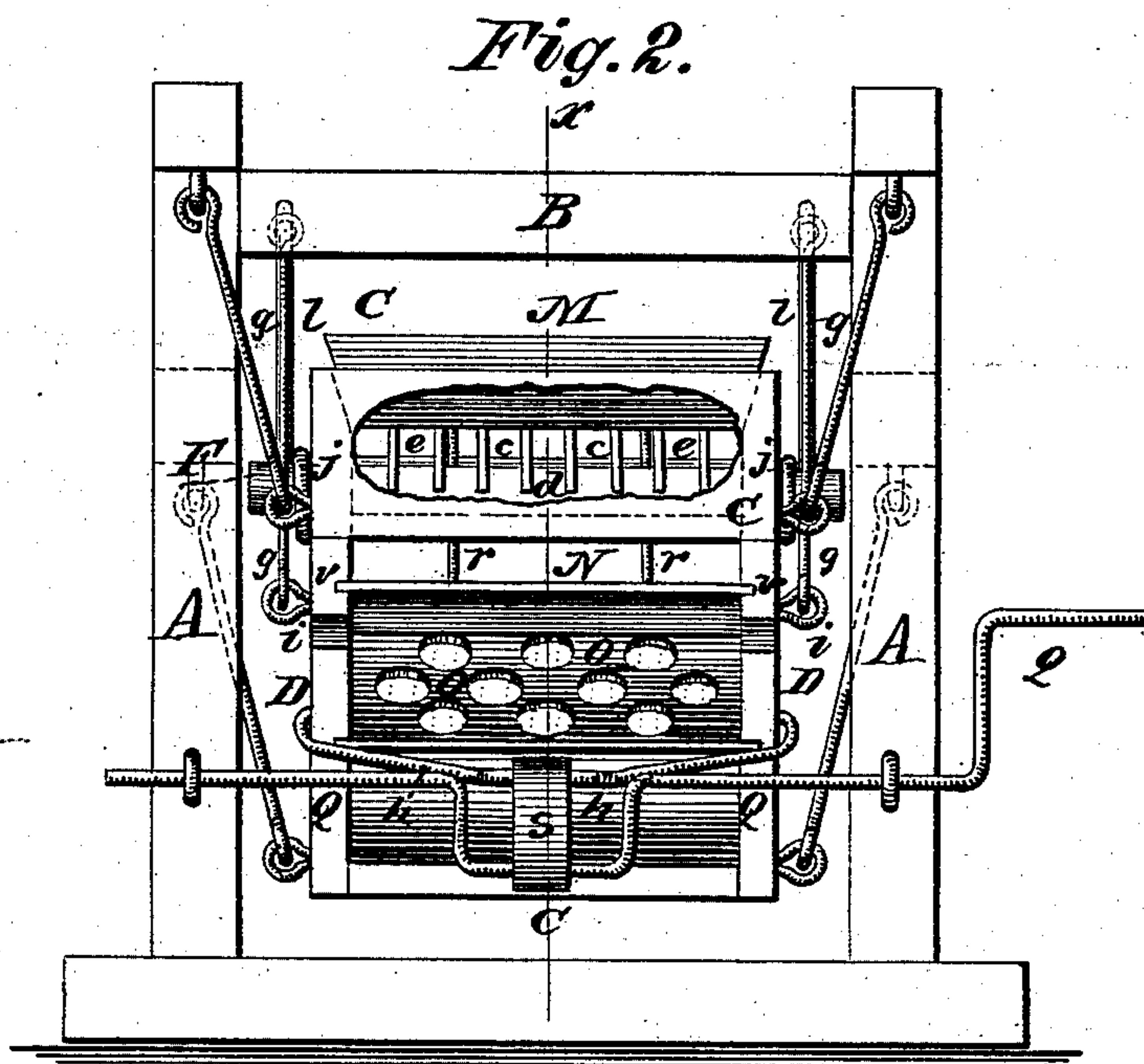
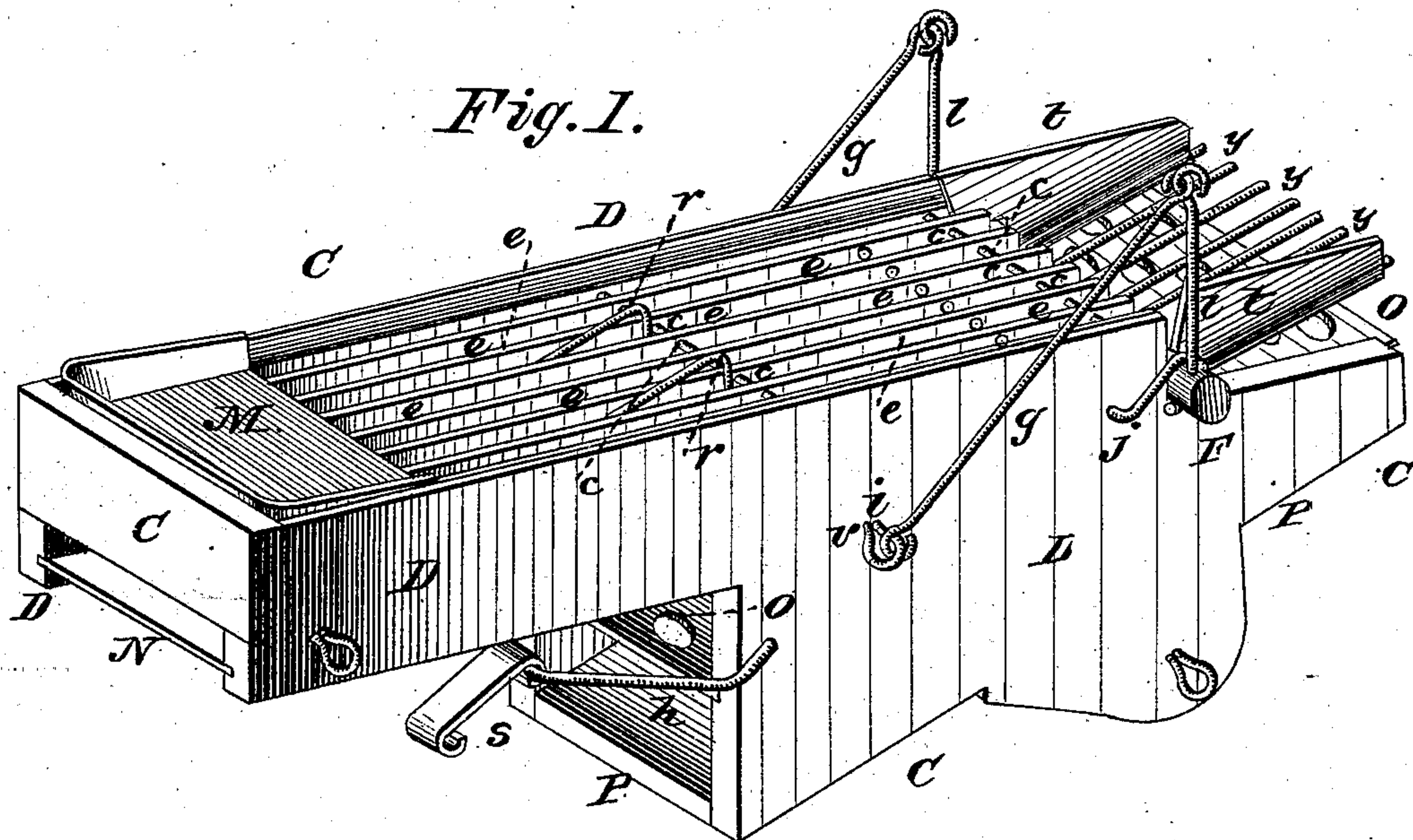


R. H. SHELDON, Jr.  
Separator for Corn-Shellers.

**No. 224,850.**

**Patented Feb. 24, 1880.**



Witnesses:

*P. C. Dietrich.*  
*Frank W. Duffey.*

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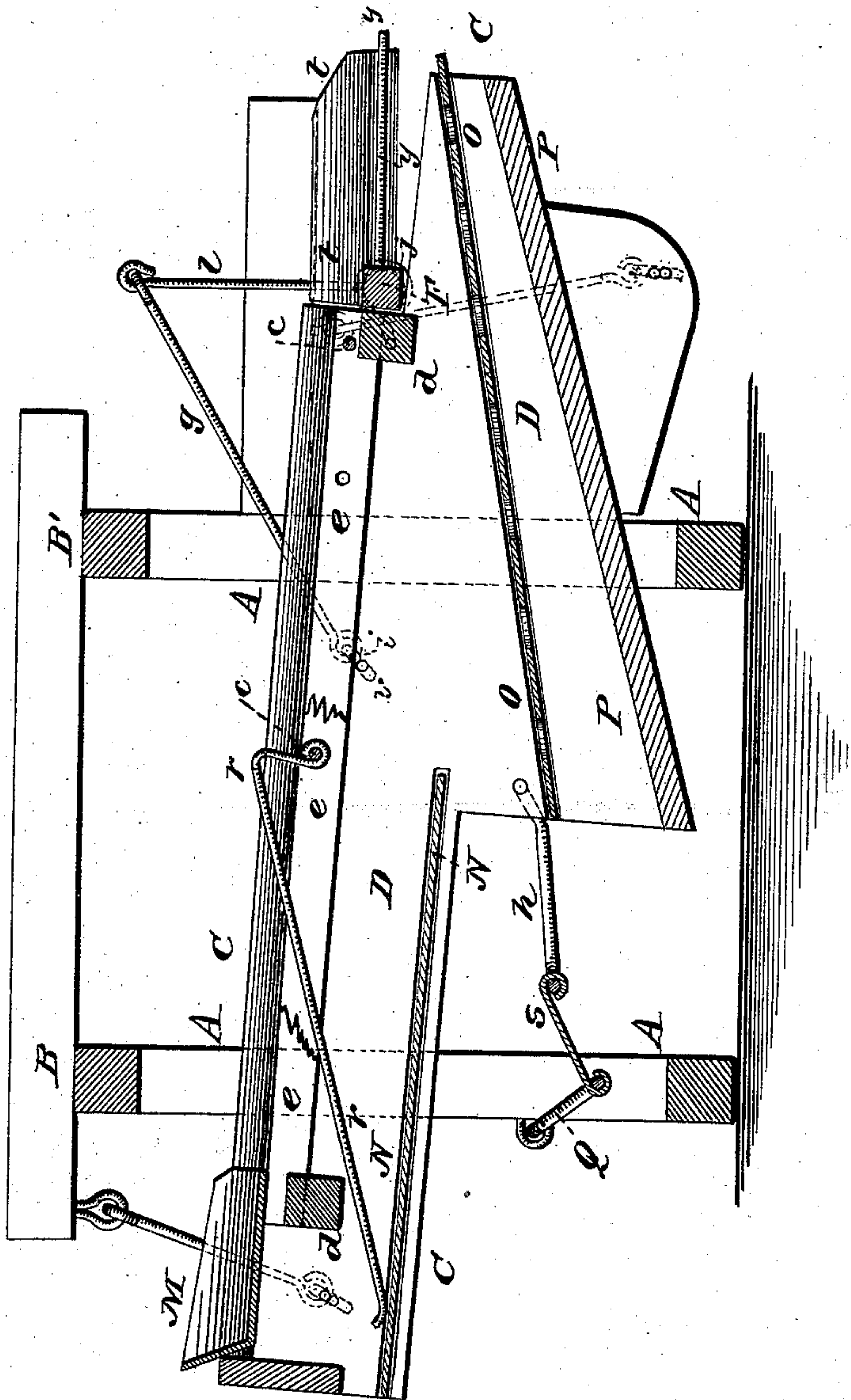
Inventor  
Rufus H. Sheldon Jr.  
Per Maman & Ward, Attorneys.

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Fig. 3.



Witnesses:

*P. L. Dietrich*  
*Frank H. Duffy*

Inventor

*Rufus H. Sheldon, Jr.*

Per

*Manahan & Ward* Attorneys.



# UNITED STATES PATENT OFFICE.

RUFUS H. SHELDON, JR., OF STERLING, ILLINOIS.

## SEPARATOR FOR CORN-SHELLERS.

SPECIFICATION forming part of Letters Patent No. 224,850, dated February 24, 1880.

Application filed May 26, 1879.

*To all whom it may concern:*

Be it known that I, RUFUS H. SHELDON, Jr., of the city of Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Separators and Cleaners for Corn-Shellers; and I 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of corn-shellers usually provided with an endless-apron cob-carrier in connection with cob-rakes for the purpose of raking and separating the cobs and other refuse from the shelled corn.

In the drawings of my invention, Figure 1 is a perspective view of the separating and cleaning apparatus removed from the frame. Fig. 2 is a front elevation of the same. Fig. 3 is a longitudinal vertical sectional view in the line *x x* of Fig. 2.

The object of my invention is to furnish a mechanism by which, in a corn-sheller, the corn can be easily and thoroughly cleaned and separated from the cobs and silks by a vibratory motion imparted to said separator and cleaner by means of a crank-shaft operated by any suitable connection from the corn-sheller proper; and it consists, essentially, of an improved vibrating separator swung to the corn-sheller frame.

In the drawings, A A A A are the ordinary upright posts of a corn-sheller. B and B' are respectively the front and rear top cross-beams, into which said upright posts are tenoned. C is the separator and cleaner, composed of the sides D, the longitudinal plates *e*, arranged edgewise on the upper surface of the separator, and held in position by being let into the front and rear end braces, *d d*, of the separator C. Such plates are placed in such proximity to one another as not to permit the passing between them of the cobs, while the corn can readily pass between such plates their entire length. Thus, for the entire length of the plates, are provided intervals for the passage of the corn, while there is no place for the corn to be carried down and over the sieve except on the

edge of the plates *e*, and they are too narrow to retain it. The motion of the plates *e* causes the cobs to continually change sides, and thus prevents them from carrying over corn.

In place of the plates *e*, rods of any material may be used. These rods or plates are intended to be substituted for the old-style cob-rakes, thereby avoiding the wearing incidental to said rakes, the catching of the cobs therein, and the carrying over of corn by the said clogging of said rakes.

M is a pan seated upon the upper or front end of the separator. N is a metal plate extending from the front end of the separator rearward for about one-half of the length of the same. O is a perforated metal sieve, placed from the rear end of the separator, at any desired angle of depression toward the front of the sheller, to a point a short distance below and in front of the rear end of the plate N; and P is the inclined bottom, extending from the rear, at any inclination desired toward the lower front of the sheller, to a point about midway between the posts A A A A.

It will be observed that the plates *e* are further stiffened and held in place by the rods *c c c* passing through the same, and which latter are firmly held, by bolts or otherwise, in the sides D.

F is a bar of wood or iron, hinged to the rear brace, *d*, of the separator by means of the hooks *j j*, and is provided with the fingers *y* and sides *t*, the latter being on a line with the outer faces of the sides D of the separator. The ends of the bar F extend beyond the sides D of the separator, and in its outer ends are the upright rods *l l*, to which are attached the straps *g*, which, in turn, are fastened to the small eyebolts *i i*, at the point *v* in the sides D.

While the straps *g* are shown in the drawings as of wire, it is my intention to have the same made of leather, so as to be capable of being changed as to length.

The purpose of the said upright rods *l l*, straps *g*, and eyebolts *i i* is to provide a means of raising the fingers *y* to any desired angle and retaining them in position by means of a tongue-buckle on the straps *g*.

My invention, as a whole, may be swung to the main frame of a sheller in the way indicated in Fig. 2 of the drawings, or to any part



of the frame-work or case of a sheller which will allow a free vibrating motion forward and back, by means of the crank-shaft Q, attached to the forward frame-posts, A A, as shown.

5 The power to operate the separator may be applied at either end of the crank-shaft Q, and such power is transmitted to the separator by the link s, connecting such crank-shaft Q with the rod h, which latter extends across the front 10 of the lower half of the separator in the same plane with such crank-shaft. The upper part of the separator is provided with the knuckles r, attached to the middle rod, e, at or near the points indicated in the first and third drawing. 15 The purpose of these knuckles will be described in the explanation below given of the operation of the devices.

In operation, the corn to be shelled is thrown into a carrier and fed to the sheller at a point 20 directly in the rear of the front top cross-beam, B, such shelling apparatus being located over the front portion of the separator. The corn and cobs, after passing through the shelling devices, are discharged upon the horizontal 25 bars or plates e immediately in the rear of said top cross-beam, B, the corn falling through the plates e upon the metal plate N, from which it is vibrated onto the perforated sieve O, through which it falls upon the inclined bottom P, and thence it passes into the ordinary 30 discharging-spout of the sheller in the usual way. As such corn falls, as aforesaid, from the metal plate N upon and through the sieve O, it is met by a current of air from the fan-wheel 35 (not shown) located in front of the forward end of the sieve O and bottom P, and under the rod s, and by means of such air-current all dust and broken silks from the corn are blown out at the rear end of the separator, both above 40 and below the sieve O. The cobs after falling, as aforesaid, upon the plates e are vibrated toward the rear end of the sheller over the fingers y onto the ground.

By shortening the straps g the fingers y are 45 raised to any desired angle, and the small pieces of cobs, silks, and husks, which in the endless-apron cob-carriers usually pass out with the cobs and carry with them a large amount of shelled corn, are retained until all 50 the corn which they may hold is vibrated through the fingers y onto the sieve O, and thus saved.

The advantage of the pan M is as follows: As the unshelled corn is carried to the sheller by means of the ordinary carrier a considerable 55 portion of the corn becomes loosened from the cob, and is carried back by the return-belt of the carrier and falls upon the ground, thus causing great scattering of the corn. In my invention all such shattered corn falls from the 60 return-belt upon the pan M, and is vibrated upon the bars e, and from thence, as described, on into the elevator-trough.

The cobs are liable to collect on the lower ends of the plates e. The knuckles r prevent 65 this by striking a great proportion of the cobs as they fall on the plates e, thus imparting to such cobs a propulsive motion which, by communication to the cobs not actually in contact with the knuckles r, gives sufficient motion to 70 the whole mass of cobs to prevent lodgment. If there were no upward projections on the upper plane of the plates e, it is evident that the cobs would receive no forward motion until they impinged upon such upper surface of 75 the plates e. The propulsive motion then given by the plates e would be limited by the weight of the cob, as the plate does not strike the cob on the side, but merely attempts to carry it. The knuckles r, on the contrary, strike the 80 cobs on the side opposite to the direction of their intended discharge, and the force of this stroke is not at all contingent upon the weight of the cob, and takes place before the cob has fully reached the plates e. This process being 85 continuous, and distributed more or less over the surface of the plates e, gives in the aggregate a large propelling motion immediately preceding and in addition to that of the carrying motion of the plates e. 90

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

As an attachment to a corn-sheller, the separator C, provided with the longitudinal plates e and knuckles r, arranged and operating substantially as shown, and for the purpose described. 95

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of May, 1879.

RUFUS H. SHELDON, JR.

Witnesses:

H. L. SHELDON,  
WM. JAMES.