

No. 693,080.

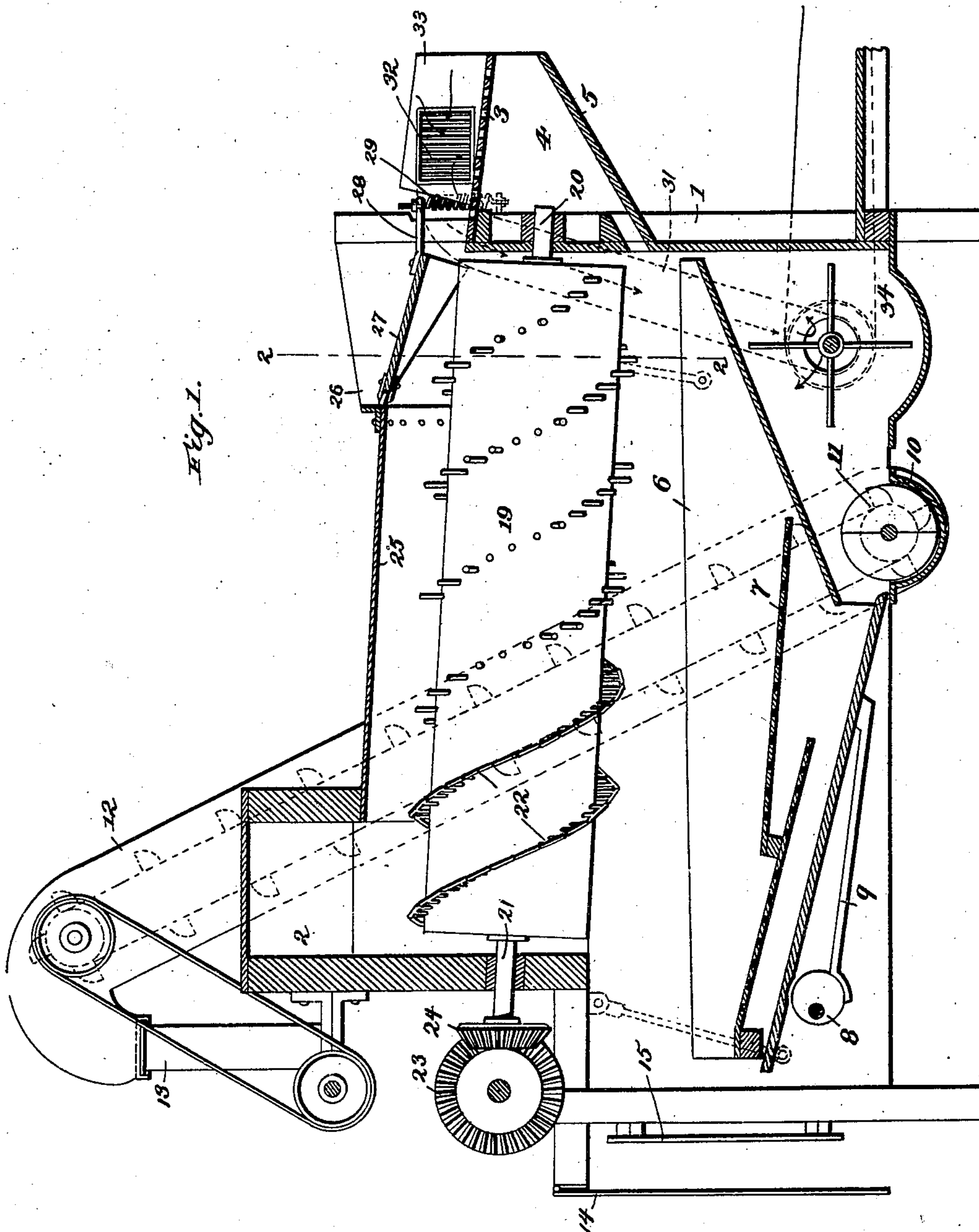
Patented Feb. 11, 1902.

S. STROUP.
CORN SHELLER.

(Application filed May 9, 1901.)

(No Model.)

2 Sheets—Sheet I.



Witnesses:
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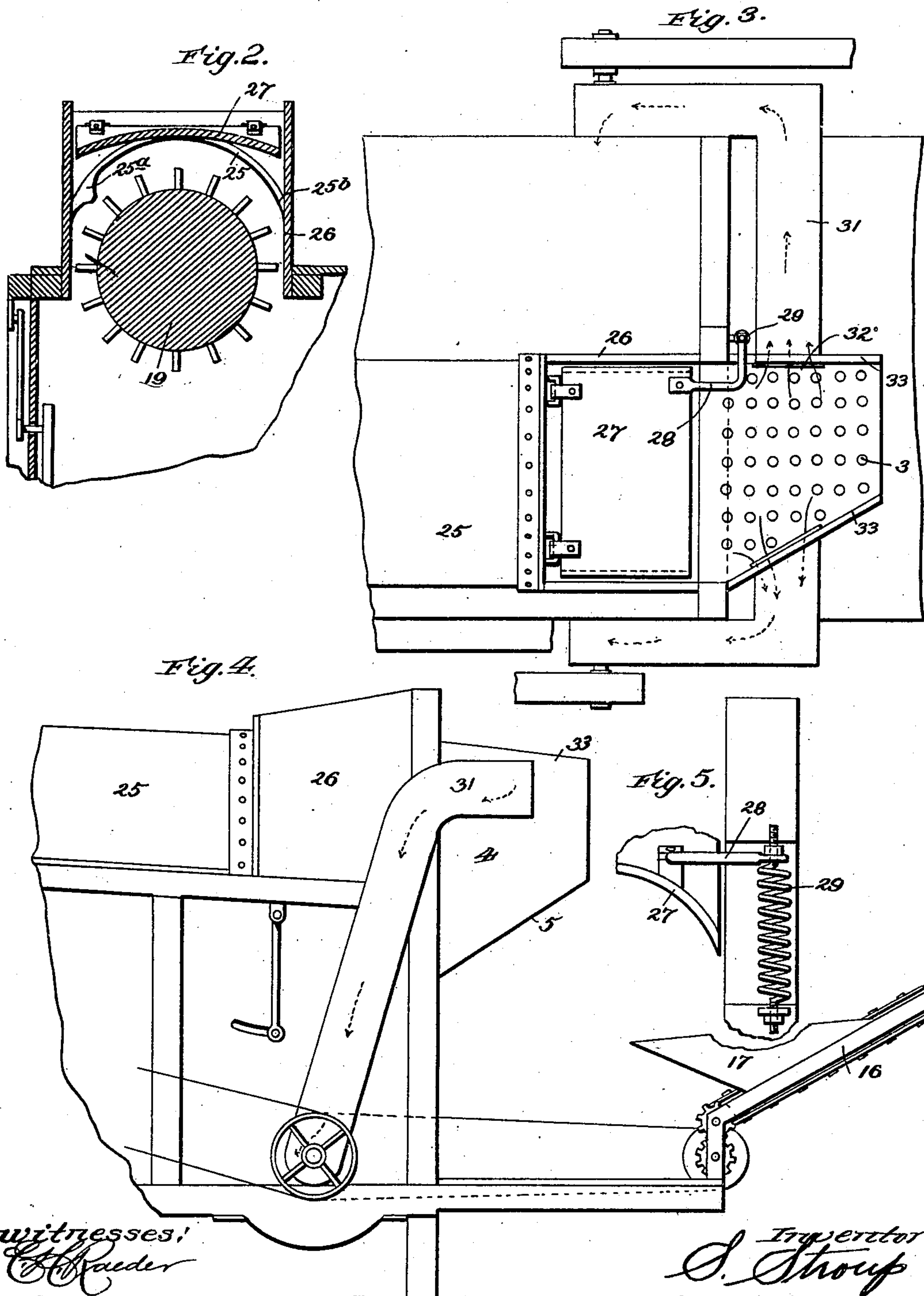
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UNITED STATES PATENT OFFICE.

SAMUEL STROUP, OF LINCOLN, NEBRASKA.

CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 693,080, dated February 11, 1902.

Application filed May 9, 1901. Serial No. 59,449. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL STROUP, a citizen of the United States, residing at Lincoln, in the County of Lancaster and State of Nebraska, have invented new and useful Improvements in Corn-Shellers, of which the following is a specification.

My invention relates to improvements in corn-shellers, and is designed more particularly as an improvement upon the sheller forming the subject-matter of my Letters Patent No. 484,474, of October 18, 1892.

It has for one of its objects to improve corn-shellers, and especially my aforesaid patented sheller, by providing an automatic device for retarding and regulating the discharge of the cobs from between the shelling-cylinder and the concave, this with a view of insuring the removal of all of the grains from the cobs precedent to the exit of the latter and rendering it unnecessary for an attendant to stand at the cob-rack to refeed the cobs after the manner pointed out in my said patent. The said device is susceptible of regulation to adapt it to properly control the discharge of either damp or dry corn, and when it is desired to preserve the cobs in a whole or unbroken state for fuel purposes it is expedient to have an attendant stand adjacent to the device, so as to enable him to readily adjust the device when it tends to break the cobs or does not properly retard and regulate the discharge of the same.

Another object of the invention is the provision of means for thoroughly exhausting dust from the vicinity of the cob-rack adjacent to which the attendant stands, so as to prevent such dust from annoying said attendant.

Other advantageous features of the invention will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a longitudinal section of a corn-sheller embodying my present improvements. Fig. 2 is a transverse section of the same, taken in the plane indicated by the broken line 2 2 of Fig. 1. Fig. 3 is a detail plan view of the rear or discharge portion of the sheller. Fig. 4 is a side elevation of the same; and Fig. 5 is an enlarged detail front elevation

illustrating a portion of the apron for retarding and regulating the discharge of the corn, the arm thereon, and the spring connected to said arm and the frame.

Similar reference-numerals designate corresponding parts in all of the several views of the drawings.

Like the machine forming the subject-matter of my Letters Patent, the present machine comprises a main frame 1, having a primary hopper 2 in its upper front portion and a cob-rack or foraminated board 3 at its rear or discharge portion, disposed over a receptacle 4, having an inclined bottom 5, a suspended shoe 6, having riddles 7, a cam 8, engaging an arm 9 on the shoe for oscillating the latter, a transverse horizontal trough 10, arranged to receive grain from the shoe, a screw conveyer 11, disposed in said trough, an inclined elevator 12, arranged to receive from the screw conveyer and having a swinging mouth 13, adapted to be adjusted from one wagon to another, the hinged board 14 for closing the front end of the machine when the same is not in use, the swinging supports or leaves 15 for supporting said board in its raised position when the machine is in use, the cob-stacker 16, having the hopper 17, arranged to receive from the cob-rack 2, and the fan or blower 18, which is arranged as shown with reference to the shoe 6 and has for its purpose to send a blast or current of air from the rear end of the machine toward the front end thereof, with a view of blowing the chaff and dust out of the machine at said front end.

Longitudinally of the main frame is arranged the horizontal shelling-cylinder 19, which has trunnions 20 21, journaled in suitable bearings at opposite ends of the main frame. The cylinder 19 is similar to that disclosed in my said Letters Patent, with the exception that its teeth 22, which constitute a spiral conveyer on its front portion, are disposed obliquely instead of longitudinally, as in the patented construction, and it is designed to be driven or rotated in the same manner as the patented cylinder—viz., through the medium of a beveled gear 23, which meshes with a similar gear 24 on its front trunnion. The endless conveyer of the inclined elevator 12, the screw conveyer 11, the cam 8, the fan

or blower 18, and the endless conveyer of the cob-stacker 16 are likewise adapted to be driven in the same manner as the corresponding parts in my patented construction.

5 Arranged over the shelling-cylinder 19 and extending longitudinally of the same is a concave 25, which has portions 25^a and 25^b disposed adjacent to the cylinder, so as to prevent ears of corn from dropping down between it and said cylinder without interfering with the free downward passage of the grains of corn to the shoe 6. At its rear end the concave 25 is connected to a box 26, and in this box is arranged my improved apron 15 27, which has for its purpose to press the ears of corn against the shelling-cylinder and retard the discharge of said ears, with a view of insuring the complete removal of grains from the cobs. This apron is preferably of the 20 shape shown in Figs. 1 and 2 and is connected at one end in a hinged manner to the rear end of the concave 25. At its opposite end and adjacent to one of its sides the apron is provided with an arm 28, which extends rearwardly and thence laterally, as best shown in Fig. 3, and is connected to the upper end of a coiled spring 29, the opposite and lower end of which is connected to the main frame, as illustrated in Figs. 1 and 5. The said spring 30 29 serves to yieldingly hold the apron in a position adjacent to the shelling-cylinder, and thereby contracts the discharge of the machine and enables the apron by pressing the ears of corn against the cylinder to insure 35 the complete removal of grains from the cobs. In order that the pressure which the apron 27 exerts on the corn may be increased when damp corn is to be shelled and diminished when dry corn is to be shelled, I prefer to 40 adjustably connect the upper end of the spring 29 to the arm 28. In the preferred embodiment of the invention this adjustable connection is effected by threading the upper end of the spring and passing such end through 45 an aperture in the arm and providing it above said arm with a nut 30, said nut being adapted to be readily turned by the attendant to adjust the tension of the spring as the conditions demand. The attendant watching the 50 discharge of cobs from the machine stands adjacent to the cob-rack 3, and in order to thoroughly exhaust and carry away the dust from the vicinity of said cob-rack, with a view of preventing annoyance to said attendant, I 55 provide the conduits 31, which lead from gratings 32 in upright walls 33 at the opposite ends of the rack to the opposite closed ends of the fan or blower casing 34, as best shown in Figs. 3 and 4 of the drawings. By virtue 60 of this provision it will be seen that not only is the dust thoroughly drawn away from the cob-rack, but the supply of air to the fan or blower casing is taken from an elevated point, and consequently there is no liability of cobs 65 or shucks getting into the fan or blower casing, with the result that the fan is enabled to better clean the grain. It will also be ob-

served that a single fan is utilized to draw dust away from the cob-rack and prevent the same rising and subjecting the attendant to annoyance and to blow dust, chaff, &c., from the shoe, which is obviously an important advantage. 70

In the practical operation of my improved machine the ears of corn to be shelled are fed 75 into the hopper 2 either by hand or by the conveyer disclosed in my aforesaid Letters Patent, but not illustrated herein, and are fed between the cylinder and concave by the rotation of the former and shelled by the co- 80 action of the same. When the ears reach the apron 27, they are pressed by the same against the cylinder, and are consequently completely depleted of grains precedent to passing out to the cob-rack 3. From the said cob-rack 85 the cobs drop into the hopper 17 of the cob-stacker, while the grains of corn that pass out with the cobs drop through the apertures of the rack and are conducted by the bottom wall 5 of the receptacle 4 back into the ma- 90 chine and discharged on the shoe 6, to be conducted, together with the grains that fall from between the cylinder and concave, to the inclined elevator 12, to be carried thereby to the point desired. 95

It will be readily appreciated from the foregoing that while my improvements materially increase the efficiency of a corn-sheller they do not add greatly to the cost thereof.

I have entered into a detailed description 100 of the construction and relative arrangement of parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear, and exact understanding of the same. I do not desire, however, 105 to be understood as confining myself to such specific construction and arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my claims. 110

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

1. In a corn-sheller, the combination of a main frame, a shelling-cylinder mounted 115 therein, a concave arranged to coact with the shelling-cylinder, a shoe disposed below the cylinder and concave, a cob-rack arranged to receive the cobs as they pass from the discharge end of the cylinder, and provided at 120 its opposite ends with walls containing gratings, a fan casing or chamber having its discharge disposed toward the shoe and in a direction away from the cob-rack, conduits leading from said gratings to the opposite ends 125 of the fan casing or chamber and a fan in the casing or chamber for drawing dust from the cob-rack and blowing dust, chaff and the like off the shoe.

2. The corn-sheller described comprising 130 the main frame, the shelling-cylinder mounted therein, the concave arranged over the cylinder, the box connected to the rear end of the concave, the apron hinged at its forward end

and movable in the box toward and from the shelling-cylinder, and having a rearwardly and laterally extending arm, a coiled spring interposed between and connected to said arm
5 and the main frame, a cob-rack arranged to receive the cobs as they pass from between the apron and cylinder, and provided at its opposite ends with walls containing gratings, a shoe arranged below the cylinder and con-
10 cave, a fan casing or chamber, a fan or blower therein, and conduits leading from the gratings in the walls on the cob-rack to the opposite ends of the fan casing or chamber.

3. In a corn-sheller, the combination of a
15 main frame, a shelling-cylinder mounted therein, a concave arranged to coact with the shelling-cylinder, a cob-rack arranged to receive the cobs as they pass from the discharge

end of the cylinder, a spring-pressed apron movable toward and from the cylinder at the
20 discharge end thereof, a shoe arranged below the cylinder and concave, a fan casing or chamber arranged to discharge against the shoe, one or more conduits leading from the cob-rack to the fan casing or chamber, and a
25 fan in said casing for drawing dust from the cob-rack and blowing dust, chaff and the like from the shoe.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit-
30 nesses.

SAMUEL STROUP.

Witnesses:

O. WILSON,

I. H. HATFIELD.