

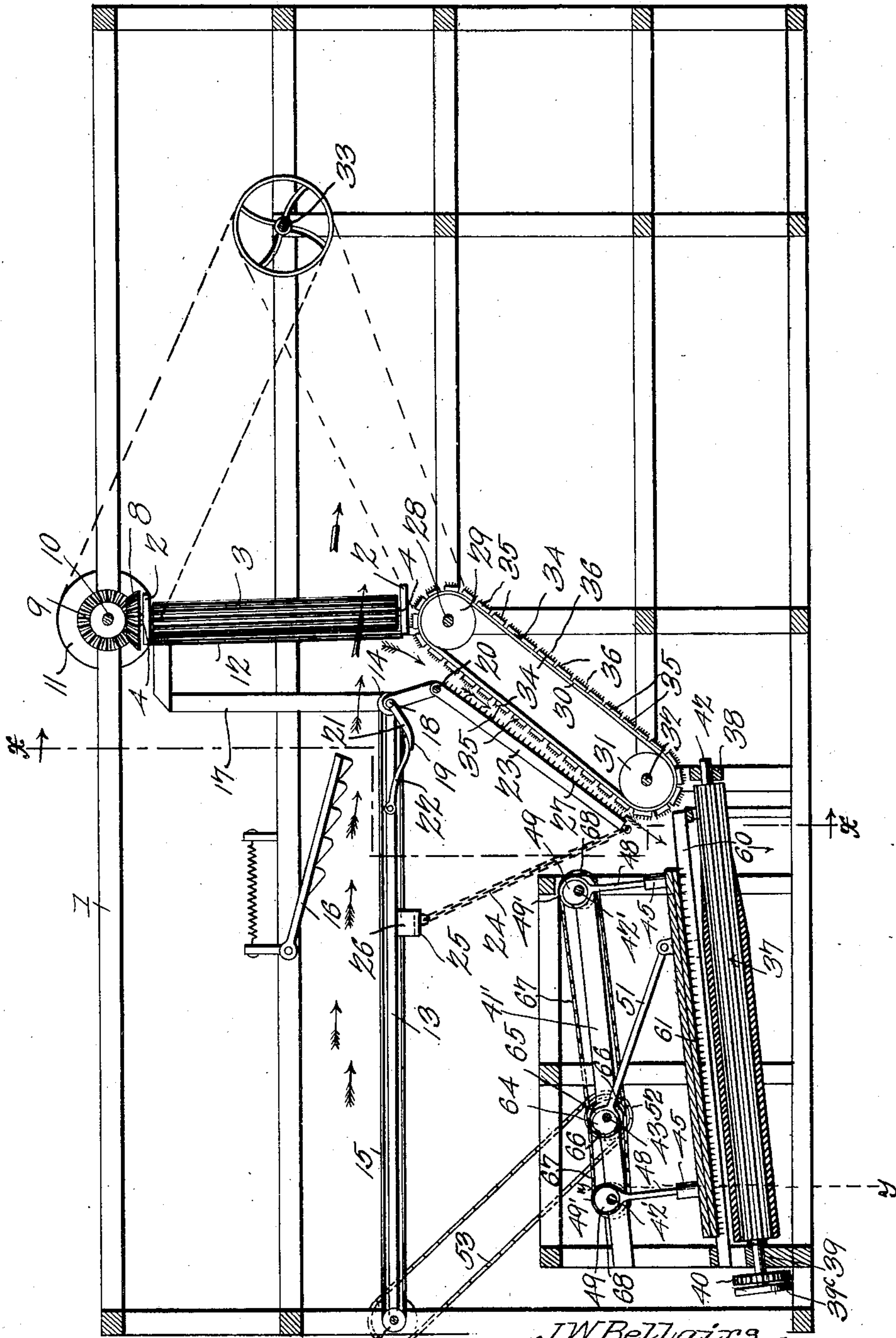
J. W. BELLAIRS & J. H. LANGTON.
MACHINE FOR HUSKING CORN.

APPLICATION FILED AUG. 8, 1902.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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No. 734,035.

PATENTED JULY 21, 1903.

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3 SHEETS—SHEET 2.

Fig. 2.

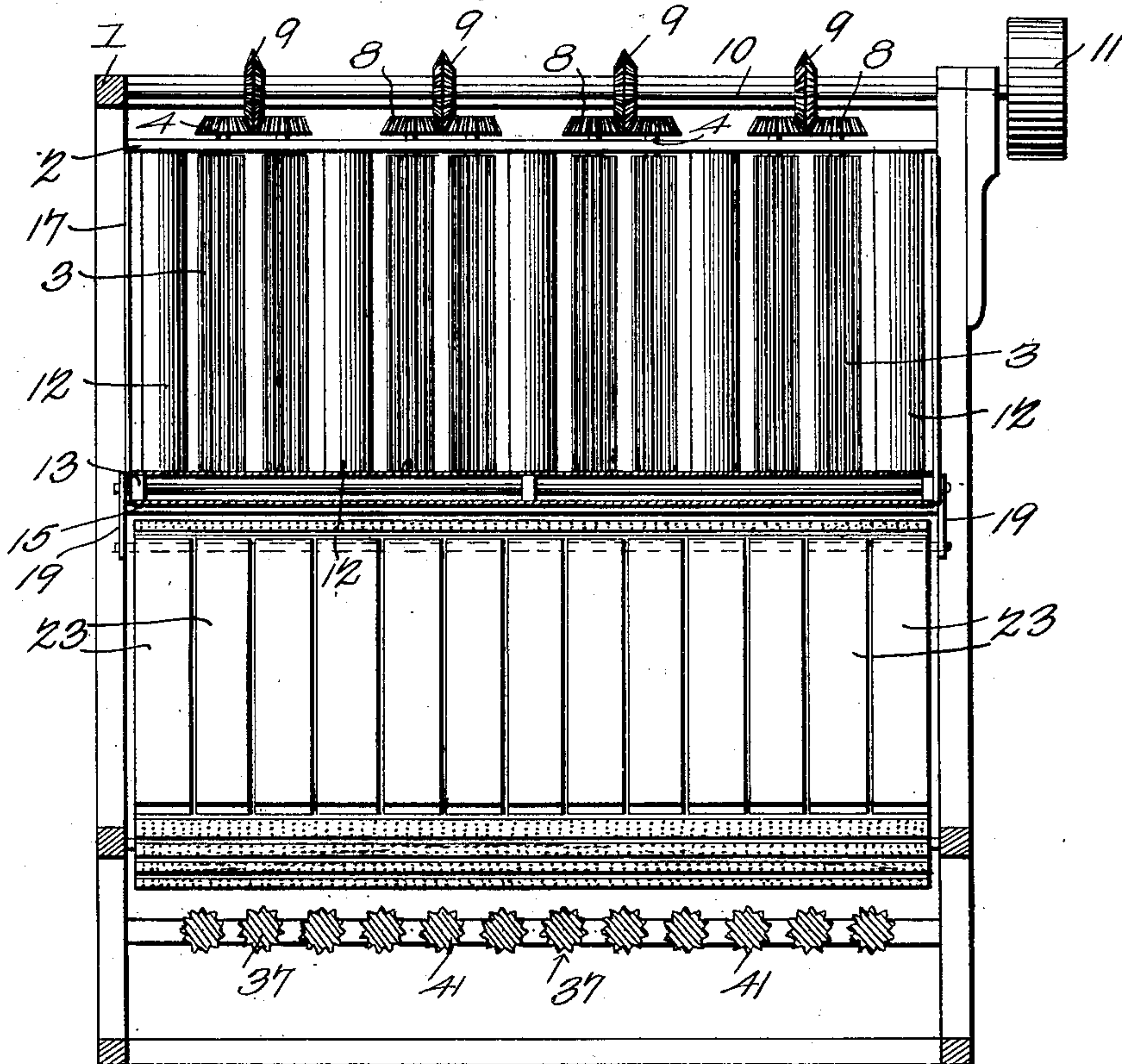


Fig. 6.

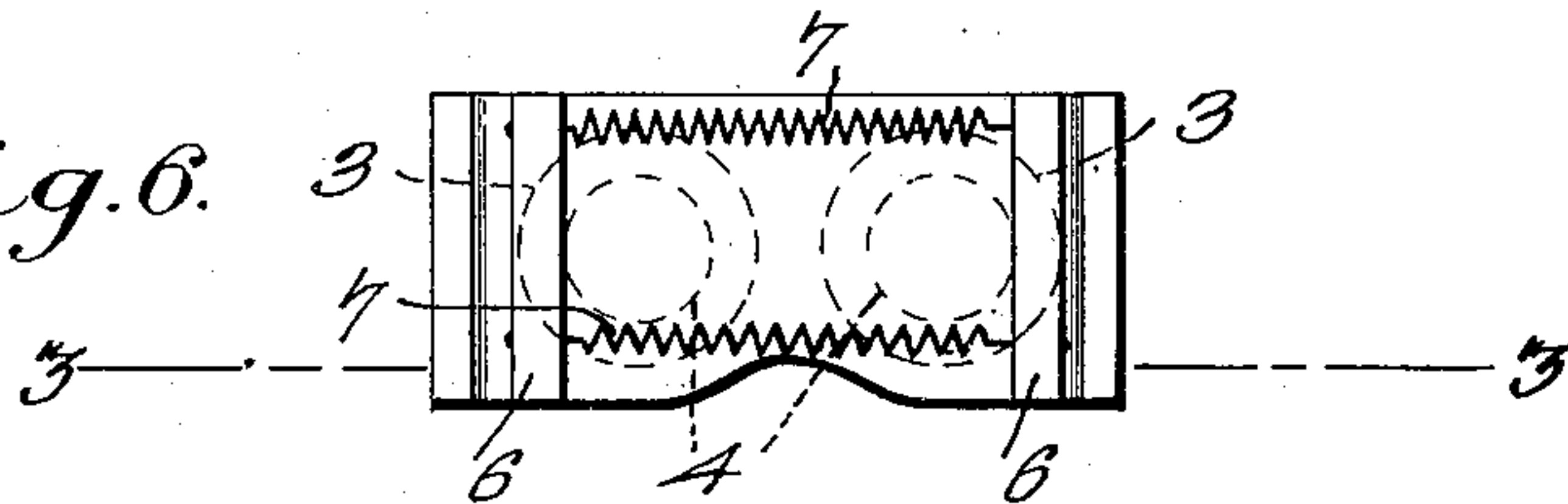
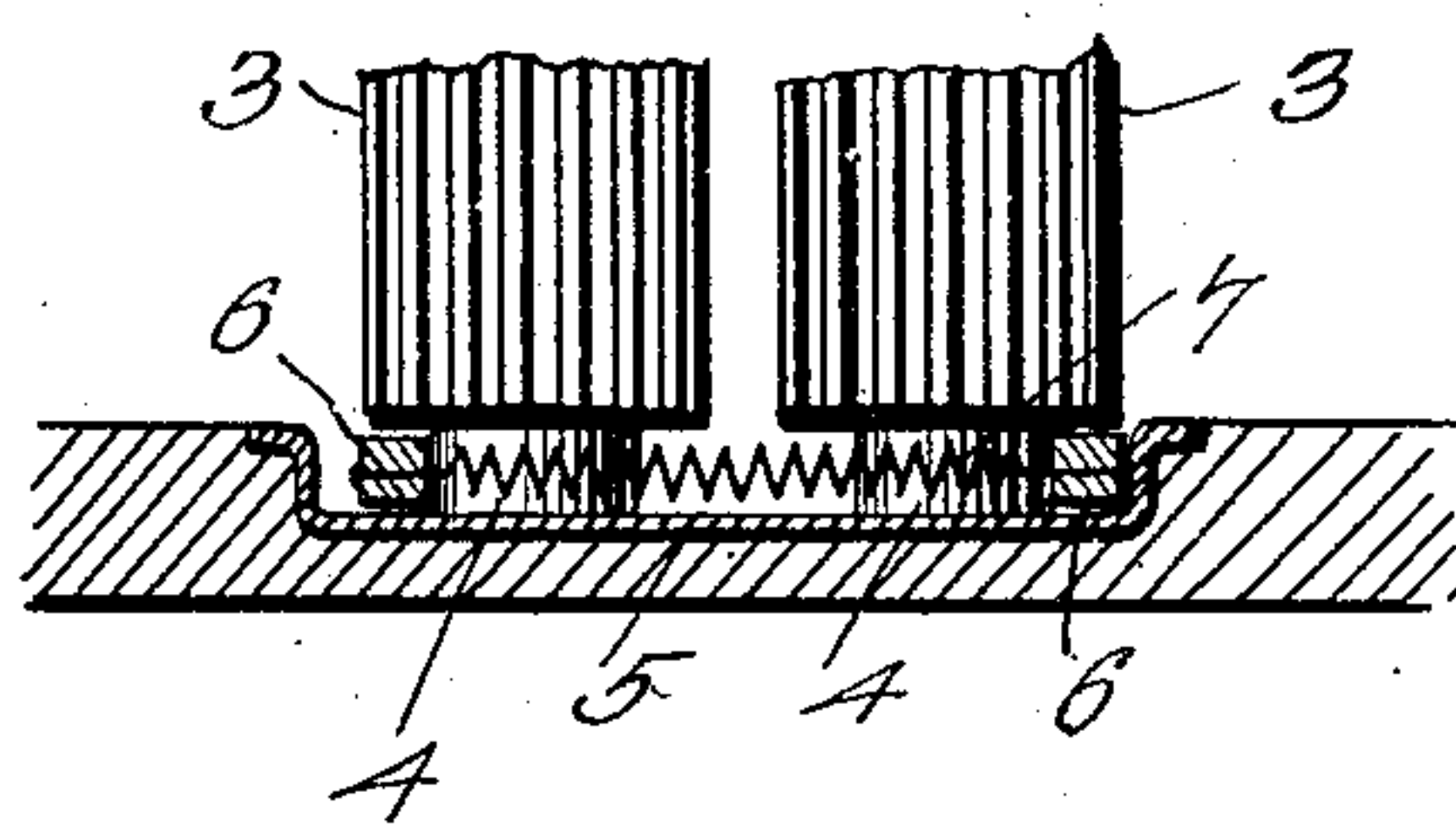


Fig. 7.



Witnesses

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3 SHEETS—SHEET 3.

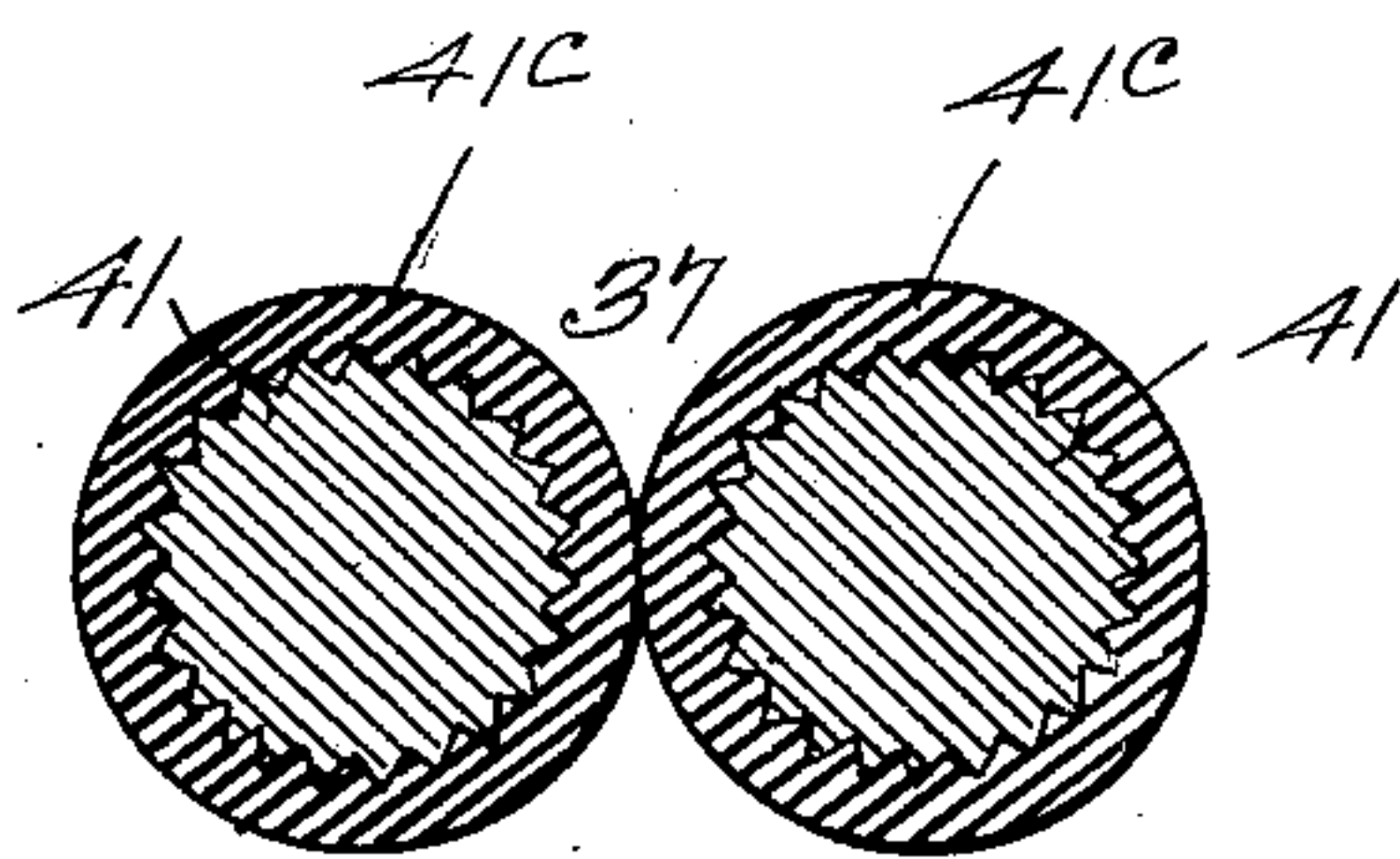
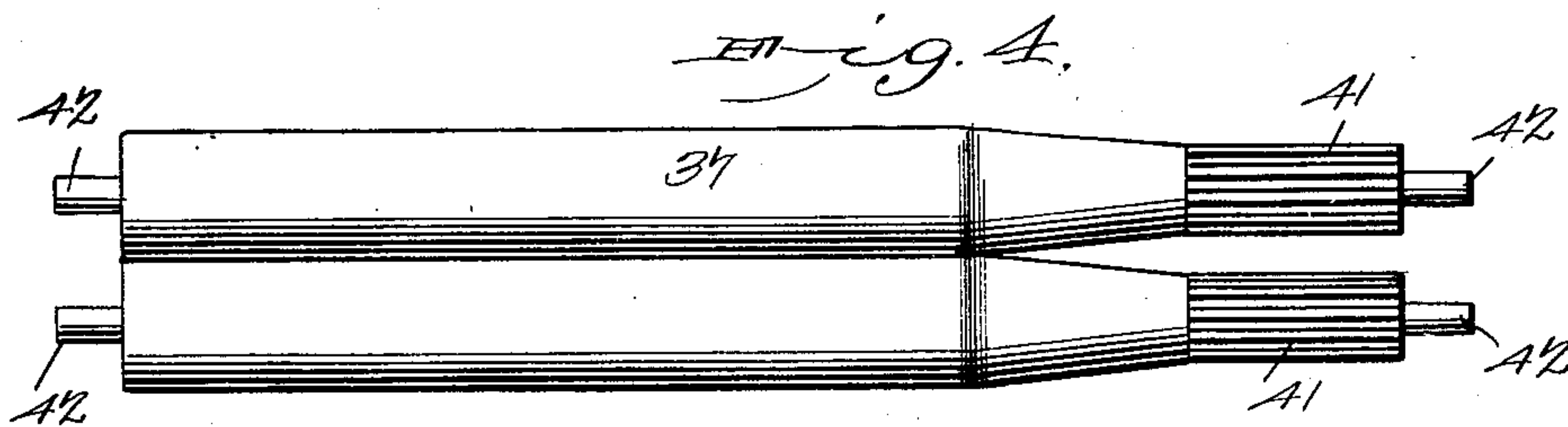
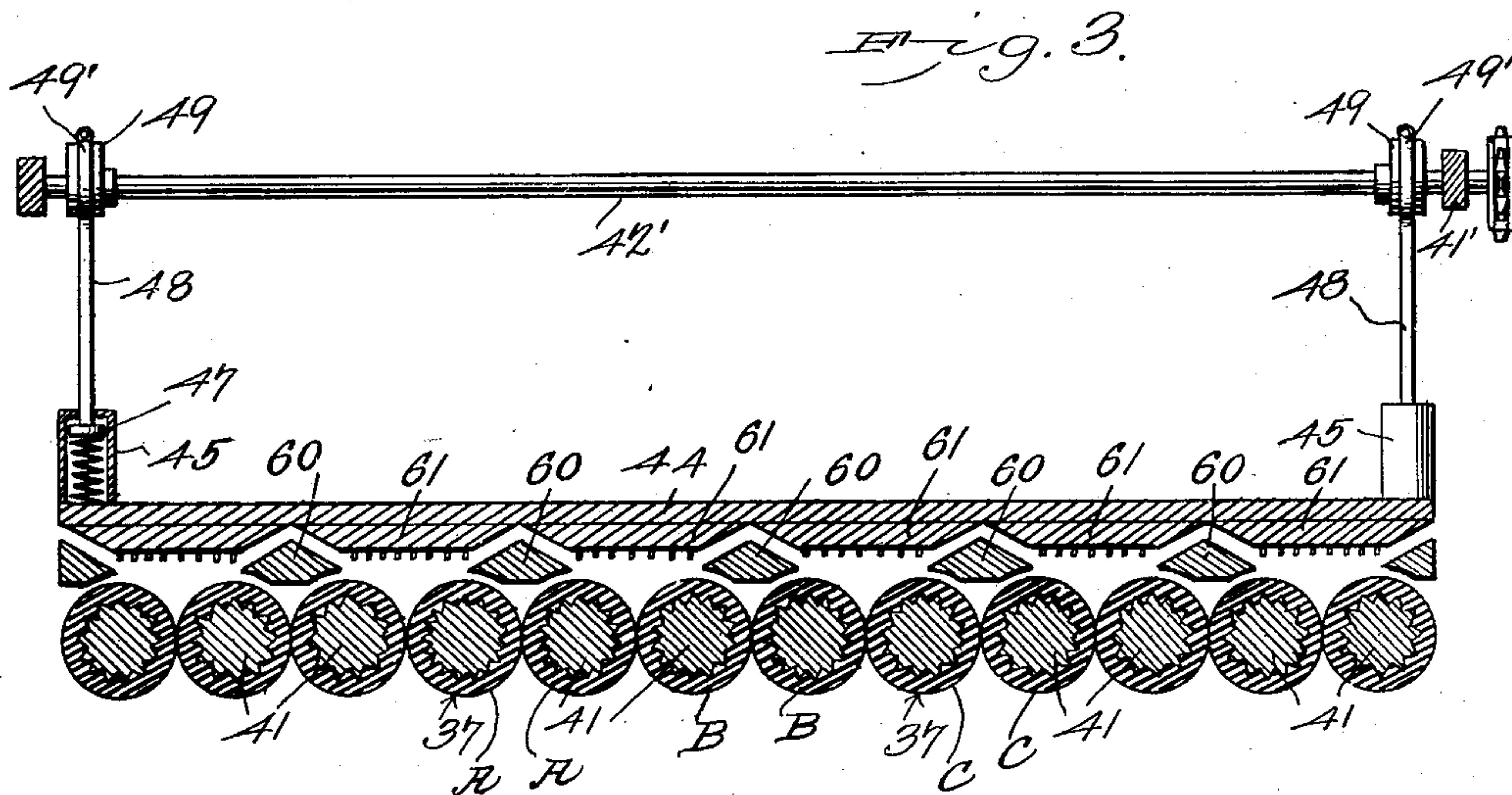


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN W. BELLAIRS AND JAMES H. LANGTON, OF CENTERVILLE, MICHIGAN.

MACHINE FOR HUSKING CORN.

SPECIFICATION forming part of Letters Patent No. 734,035, dated July 21, 1903.

Application filed August 8, 1902. Serial No. 118,953. (No model.)

To all whom it may concern:

Be it known that we, JOHN W. BELLAIRS and JAMES H. LANGTON, citizens of the United States, residing at Centerville, in the county of St. Joseph and State of Michigan, have invented a new and useful Machine for Husking Corn, of which the following is a specification.

This invention relates to that class of machines which are commonly designated "corn-husking" machines, but which are used for the purpose of stripping or snapping the ears from the stalks of corn, as well as for the purpose of removing the husks; and our invention has for its object to provide a machine of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view our invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of a machine constructed in accordance with our invention. Fig. 2 is a vertical transverse sectional view taken on the line $x x$ in Fig. 1. Fig. 3 is a detailed sectional view taken on the line $y y$ in Fig. 1 and on a somewhat larger scale. Fig. 4 is a plan view showing a pair of the husking-rolls, also on a larger scale. Fig. 5 is a sectional view transversely through a pair of the husking-rolls and showing the same on a still larger scale than in Fig. 4. Fig. 6 is a sectional view taken horizontally through the boxing or bearing of the stripping-rolls. Fig. 7 is a sectional view taken on the line $z z$ in Fig. 6 and showing also the lower ends of the rolls.

Corresponding parts in the several figures are indicated by like characters of reference.

The frame of our improved machine, which has been designated 1 throughout the drawings, may be of any desired and suitable construction whereby it shall be best adapted to the ends in view. The said frame may therefore be changed in many particulars. It may be adapted to or form a part of the structure in which the machine is located. It may be mounted or adapted to be mounted upon wheels, so as to facilitate its transportation

from one place to another, or its construction may be altered in any other particulars without departing from our invention. For convenience of description, however, the structure illustrated in the drawings will answer the purpose.

The frame is provided with cross-pieces 2 2, having bearings for the stripping or snapping rolls 3 3. These rolls, as will be seen by reference to Fig. 2 of the drawings, are arranged in pairs, and any desired number of pairs of rolls may be employed in our improved machine, according to the desired capacity of the same. The rolls 3 3 are provided at their ends with journals 4 4, which are mounted slidably in boxes 5, within which are arranged cross-pieces 6 6, bearing against the outer sides of the journal 4 and connected at their ends by springs 7, whereby the said rolls shall be forced in the direction of each other. The construction thus indicated is, as will be seen, extremely simple, and it may be changed or elaborated upon, if it shall be found desirable to do so. It serves, however, to show our object, which is to arrange the rolls yieldably with relation to each other, so that they will to some extent give when stalks heavier than ordinary shall be passed between them.

The upper ends of the rolls 3 are provided with bevel-pinions 8, meshing with double bevel-pinions 9, mounted upon a shaft 10, arranged transversely in the frame of the machine and receiving motion by means of a belt or band running over a band-wheel 11 at one end of said shaft and transmitting motion thereto from the source of power. Here, again, we would have it understood that it is not absolutely necessary to transmit motion initially to this particular shaft. Again, we would have it understood that we do not confine ourselves to the means for transmitting motion from this shaft to the snapping-rolls herein shown and described. Thus, for instance, the bevel-pinions might be differently arranged and mounted or other means than cog-gearing might be employed for the purpose of transmitting motion without departing from the spirit of our invention.

The pairs of rolls 3 3 are separated, as will be seen clearly in Fig. 2 of the drawings, by shield-guides 12 12, one of which is interposed

between each pair of rolls and one at each end. These shields or guides may be curved so as to present a convex front, or they may be pointed or V-shaped sectionally so as to present a comparatively sharp edge to the front, or they may be of any other suitable construction whereby they shall accomplish their purpose, which is to guide the corn-stalks directly to the rolls, which, revolving in the direction of each other, will feed the said stalks directly between the pairs of rolls without danger of choking the machine at any point. The edges of the shields 12 may be extended slightly behind the rolls, or they may terminate just in front of the latter at a point where they shall just escape contact with the said rolls, whichever may be preferred.

Regarding the rolls themselves, they may be constructed of any desired material and in any proportions that may be deemed most suitable to enable them to satisfactorily perform the work for which they are designed. In the drawings these rolls have been shown as being fluted or vertically corrugated. This will probably be the preferred form, although we do not limit ourselves in this respect. In a general way, however, it may be stated that these vertical snapping-rolls may be of less diameter than rolls heretofore employed for a similar purpose when such rolls have been disposed horizontally, and this is but one of a great many advantages resulting from the vertical (or approximately vertical) disposition of said rolls. Said rolls, as will be seen, have their upper ends leaned slightly in a forward direction, and thus the stalks fed between them will travel slowly in an upward direction. The feeding capacity of said rolls is therefore largely increased. Other advantages resulting from this specific construction will be hereinafter more fully referred to.

A table or platform 13, arranged in front of the snapping-rolls, is provided at its ends with rollers 14, forming supports for an endless carrier 15, by means of which the corn-stalks are fed to the snapping-rolls. A spring-actuated band-cutter 16 (or a series of such cutters) may be arranged above the feed-table for the purpose of cutting the bands when the corn is fed in shocks or bundles. At the sides of the feed-table we prefer to arrange guides 17, which serve to prevent the butt-ends of the stalks from leaving the feed-table without being engaged by the rolls.

The shaft 18, which supports the roller 14 nearest the snapping-rolls, is provided with a pair of bell-cranks 19, supporting a shaft 20, which is mounted in the downwardly-extending arms 21 of said bell-cranks. The forwardly-extending arms 21 of the latter are pressed in a downward direction by means of springs 22. The shaft 20 supports a series of downwardly and forwardly inclined boards 23, the lower ends of which are connected by

chains, cords, or other flexible connections 24 with a frame-bar 25, supported by brackets 26 from the edges of the table 13. The under sides of the boards 23, which act as presser-boards, are provided with points or prongs 27 or with otherwise roughened surfaces, the function of which will be presently understood.

A shaft 28, mounted beneath the snapping-rolls 3, is provided with wheels or rollers 29, supporting an endless carrier 30, the lower end of which is supported on wheels or rollers 31 upon a shaft 32, arranged parallel to the shaft 28. The latter may receive motion from a counter-shaft 33, to which motion is in turn transmitted from the shaft 10; but, as hereinbefore stated, motion may be transmitted to any of the operative parts of the device in any suitable and convenient manner.

The endless carrier 30 is composed of an apron 34, carrying a series of transverse slats 35, the upper sides of which are provided with prongs or barbs 36. It will be observed that this endless carrier passes in a downward direction directly below the pressure-boards 23, but not in contact with the latter, such contact being avoided by the lower ends of said presser-boards being adjusted at a proper distance from the face of the endless carrier by means of the flexible connections 24, while the upper ends of said pressure-boards, although normally pressed in the direction of the endless carrier by the action of the spring 22, are adjusted at such a distance from the said endless carrier that actual contact may not take place at any time.

When reference is had to Fig. 1 of the drawings, it will be seen that the feed-apron 15 terminates some distance in front of the lower ends of the snapping-rolls, while the upper ends of the presser-boards are located almost directly below the rear end of said feed-apron. The purpose of this is to afford ample space for the ears of corn removed from the stalks by the snapping-rolls to drop directly upon the upper end of the endless carrier 30 and be carried by the latter in a downward direction underneath and in contact with the presser-boards 23.

It will be observed that the barbed or roughened surfaces of the slats of the endless carrier will take a positive hold of the ears of corn, which being carried below and in contact with the barbed or roughened under surfaces of the presser-boards will be so operated upon that the husks shall be "ruffed" or loosened, thus preparing them to be acted upon by the husking-rolls, to the action of which they will be next submitted. An important feature of the invention lies in the fact that the presser-boards 23 are independently movable upon the supporting-shaft 20. They will thus readily adapt themselves to ears of corn of the most varying sizes, and there will at no time be any danger of the corn being partly shelled by the pressure exerted by these parts of the device.

The husking or husk-removing part of our improved machine is composed of a series of rolls 37, mounted in suitable bearings 38 and 39 in such a manner as to be inclined in a forward and downward direction. The trunnions at the lower ends of these rolls are provided with pinions 40, intermeshing with each other, so that the said rolls shall be rotated alternately in opposite directions. Thus each pair of rolls will operate to force matter downward between them. Motion may be transmitted to the said husking-rolls in any suitable and convenient manner—as, for instance, by means of a pulley 39^c upon one of the roller-shafts suitably belted to the source of power.

With regard to the construction of the individual husking-rolls we would state that the preferred construction has been illustrated in Figs. 4 and 5, by reference to which it will be seen that said rolls are composed of longitudinally-fluted bodies 41, having spindles or trunnions 42 at their ends, by means of which they may be mounted in the bearings provided for their reception. These fluted bodies are covered for the greater portion of their lengths with a covering of rubber 41^c, which is molded upon said fluted bodies, so as to present a true cylindrical shape for the greater portion of the length at the front or lower ends of the rolls. The rolls are so disposed with relation to each other that the cylindrical rubber-covered portion of each roll shall exert a decided pressure against the adjacent rolls. The cylindrical portion of the rubber covering of each roll extends, as stated, over the greater portion—that is, more than one-half—of the roll and is thence tapered, so as to present a coniform surface for about one-half of the remaining length, the extreme upper or rear ends of the said rolls being left uncovered, as clearly shown in the drawings. This, as stated, is the preferred construction; but we reserve the right to such modifications of said construction as lie within the scope of the invention.

The husking-rolls, as already stated, are arranged in a forwardly and downwardly inclined position, with their cylindrical portions in contact with each other. Frame-bars 41', arranged approximately parallel to and above said rolls, are provided near their ends with bearings for shafts 42' 42', and an additional shaft 43 is located intermediately between and parallel to the said shafts. 44 is a presser-plate extending over and practically covering said husking-rolls, with the exception of their upper or inner reduced portions, upon which the ears are discharged by the mechanism located above. This presser-plate is provided on its upper side with sockets 45, containing coiled springs which bear against the bottoms of the sockets (or the upper side of the presser-board) and the under sides of the pistons 47, vertically movable in said sockets and connected by rods or pitmen

48 with eccentric disks 49 upon the shafts 42, which latter thus serve to support the presser-plate, the pitmen being obviously provided with bands 49', encircling the eccentric disks.

As already stated, the husking-rolls 37 are so operated that alternate rolls shall be operated in opposite directions, thereby causing each pair of rolls to operate to force matter downward between them. Each pair of rolls thus operating have been designated, beginning from one end, by the letters A A, B B, C C, &c. Now it will be seen that proximate rolls of two adjacent pairs—such as A B, B C, &c.—will operate in a reverse direction—that is, upwardly. To prevent the ears of corn from entering between such proximate upwardly-moving rolls, and thus escaping unhusked at the discharge end of the machine, we provide a series of guide-slats 60 of suitable shape, disposed longitudinally above the proximate rolls, extending over the entire length of the rolls and having suitable supports at their ends. The upper sides of said guide-slats are preferably of an inverted-V shape, so that the ears dropping thereon shall be deflected between the operating or husking rolls proper.

The presser-plate 44 is provided on its under side with cleats 61, having beveled ends that form recesses of an inverted-V shape to accommodate the guide-slats, sufficient space being left between them, however, to allow for the movement of the presser-plate, as hereinafter described. The cleats 61 are preferably provided on their under sides with prongs or barbs, or their surfaces are otherwise roughened, so that they shall act to propel the ears of corn in a downward and forward direction as they pass over the husking-rolls to the discharge end of the machine.

The shaft 43 carries a pair of eccentrics 64, having bands 65, which are connected by the pitmen 51 with the presser-plate, so that the latter may thereby receive a reciprocating motion. The crank-shaft 43 is also provided with a sprocket-wheel 52, receiving motion by a belt or band 53 from a sprocket-wheel 54 upon the front shaft 14 or in any other convenient manner. The shaft 43 is further provided with a pair of sprockets 66 66, connected by chains 67 with sprocket-wheels 68 upon the front and rear shafts 42', respectively. It will be observed that by this construction and arrangement of parts the presser-plate 44 is supported not only in such a manner as to be vertically yieldable with relation to the husking-rolls, but also to receive a longitudinally as well as a vertically reciprocating movement with relation to the latter. The motion is obviously such that the presser-board descends from the point of its highest elevation toward the receiving ends of the husking-rolls, so as to carry or feed the ears of corn downwardly over said rolls to the discharge end. The vertically-yieldable feature enables the said presser-plate to adapt itself to

ears of various sizes, thus enabling even the largest ears to be fed over the husking-rolls without danger of injury thereto.

The operation of our invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed.

The corn that is to be operated upon is placed upon the endless carrier of the feed-table with the butt-ends facing the snapping-rolls. Passing under the band-cutters the bands are severed. Said band-cutters may of course be dispensed with when desired. As the corn approaches the snapping-rolls the butt-ends of the stalks will be engaged by the shields or guides 12 and be thereby diverted to the rolls, which will engage the stalks, the latter passing between said rolls, which being mounted yieldably in their bearings will expand, so as to permit the passage of the heavy butt-ends of the stalks. As already stated, the stalks will be fed not only in a rearward but also slowly in an upward direction, owing to tilted position of the snapping-rolls. When the ears are encountered, these will be invariably presented with their butt-ends toward the snapping-rolls. This is a very important and decided advantage and one which is attained principally by the upright disposition of the said rolls. In machines where horizontal snapping-rolls are employed the ear is extremely liable to be presented either point or broad side first to the rolls, which will thus deliberately crush the ear or necessitate its removal from between the rolls by the hand of the attendant, an operation which not only occupies much valuable time, but which is invariably attended with danger. In any case an ear presented otherwise than butt-end first to the snapping-rolls is liable to be more or less shelled or deprived of its kernels, thus involving a loss which frequently foots up large in the aggregate and which is absolutely avoided by our improved device. The forwardly-tilted position of the snapping-rolls causes the stalks to be fed in an upward as well as in a rearward direction, as already stated, and the capacity of the machine is thereby largely increased, inasmuch as fresh stalks may be constantly engaged by the lower ends of the rolls. It is of course desirable that the stalks should be spread over as large an area as possible in order to prevent entanglement of any kind which would result in preventing the ears from dropping between the rear end of a feed-table and the front sides of the snapping-rolls. The shields 12 serve not only to guide the stalks to the rolls, but also to separate the stalks, thus leaving a space between the stalks passing between adjacent rolls, which will also assist in guiding the ears removed from said stalks to the open space between the rear end of the feed-table and the front sides of the rolls. The importance of this will be realized when the fact is taken into consideration that each pair

of snapping-rolls may at any time operate upon a number of stalks, each being simultaneously fed upwardly and rearwardly one above the other. By the construction and arrangement set forth the ear is enabled to leave or separate from the stalk at the very instant it is snapped off from the latter and is permitted to drop between the stalks and to the husk-loosening mechanism located underneath. It is absolutely impossible for the ears to be presented to the snapping-rolls point first, owing to the open space between the stalks occasioned by the pairs of snapping-rolls being spaced by the shields 12, which will provide ample room for each ear to drop before it reaches and passes into engagement with the rolls. Another advantage of the snapping-rolls standing on end is the obvious impossibility of an ear of corn lodging between or in front of the rolls. This is one of the serious disadvantages encountered in machines where horizontal or approximately horizontally disposed snapping-rolls are employed. Many other advantages of this part of the invention might be enumerated, which, however, will readily suggest themselves to those skilled in the art to which our invention appertains. From the snapping-rolls the stalks pass downwardly to the space in rear, from which they may be removed in any convenient manner. The ears drop down upon the upper portion of the endless carrier 30, whereby they are carried in a downward direction under the yieldable presser-boards 23. It will be noted that not only are the upper ends of said presser-boards yieldable in an upward direction against the tension of the springs 22, thus enabling the said presser-boards to adapt themselves to ears of different dimensions, but the lower ends of said presser-boards are individually yieldable, being held from contact with the carrier by means of the flexible connections 24. The carrier 30, it will be observed, forms a positive or force feed whereby the ears, large and small, are carried downwardly under the presser-boards, all the ears, irrespective of size, being acted upon by the latter, which operate to loosen and partially to shred the husks of the ears. This part of our invention, it will thus be observed, performs a double function—it acts as a carrier to convey the ears of corn to the desired point of discharge above the upper ends of the husking-rolls and it also serves to loosen the husks and prepare them to be engaged and acted upon by the husking-rolls.

The husking part of the mechanism of our improved machine consists, as before stated, of rolls arranged beside each other and in a slightly-inclined position, the inner or rear ends of said rolls being elevated above the front ends and extended under the lower end of the endless carrier 30. The shafts of these rolls being all provided with pinions engaging each other, it follows that alternate rolls are operated in reverse directions. The said rolls

are thus practically arranged in pairs, the engaging faces of which rotate downwardly with relation to each other. By the construction of the rolls, which has been clearly illustrated in Figs. 4 and 5 of the drawings, it will be seen that all leaves and loose pieces of fodder which have been detached from the stalks by the snapping-rolls will pass readily between the inner upper ends of the husking-rolls, there being absolutely nothing to prevent the passage of material of this character, while obviously the distance between the inner ends of said husking-rolls must be so slight as to prevent even small ears of corn from passing between the said rolls. When the ears of corn drop upon the said rolls, the husks having been previously partly shredded and loosened by the mechanism described, the said husks will be gradually engaged, first, by the tapered and then by the cylindrical portions of said rolls and gradually torn or loosened from the ears. Let it here be observed that the ears having been originally presented to the snapping-rolls butt-ends first, with the point naturally and usually depending in front of said snapping-rolls, owing to the weight of the ear, it follows, as a matter of consequence, that the ears will be dropped point first upon the endless carrier 30 and be carried in this position underneath the presser-plates 23. This position—namely, point first—the ears naturally retain when they are dumped or discharged upon the husking-rolls, and it will thus naturally be the points of the husks that are first engaged by the said rolls, and the said husks are thus in a perfectly natural manner stripped from the ears from the point downward. While this operation is taking place the ears are traveling upon the rolls 37 in a forward and downward direction. As soon as the cylindrical portions of the rolls 37 are encountered by the ears these elastic or yielding surfaces now get a firm grip upon the husk, exerting at the same time what might be termed a “downward” suction, which serves to tear the husks forcibly from the ears, while the latter in no wise injured continue their downward passage over the rolls, being finally discharged over the front ends of the latter, where a shield or discharge-chute may be arranged when desired.

It is thought that the foregoing description will enable any one skilled in the art to which the invention appertains to understand, to use, and to appreciate the advantages of the improved machine; but we desire to state and to have it distinctly understood that many of the parts of the device are capable of being changed as regards their detailed construction and arrangement without detracting from the utility of our invention or departing from the spirit and scope thereof. This, we would say, applies more especially to the construction of the rolls, the snapping-rolls as well as the husk-

ing-rolls. The latter are to be invariably covered with rubber for a portion of their lengths; but the rubber covering may be extended over the entire length. The said husking-rolls may be fluted or corrugated, as shown in the drawings, or they may be smooth, and the rubber covering throughout its length or in part may be likewise fluted, corrugated, or otherwise shaped in what experience may determine to be the most advantageous manner for performing the work for which they are designed, or the said rubber portions may be left smooth, as shown in the drawings. The snapping-rolls may be smooth or they may be fluted or corrugated in any desired manner, and they, too, may be covered with rubber wholly or in part. The rubber covering when worn may be cut, torn, or otherwise stripped from the rolls and a new covering molded thereon. As regards the method of and means for transmitting motion between the parts of the device we do not limit ourselves, and we would further have it understood that the relative arrangement of the component parts of the device may be changed, provided that the utility of the invention is not departed from and that the general scope and spirit of the invention are adhered to. Other changes and modifications than those specifically referred to may be made when desired. The surfaces of the slats upon the carrier 30 and the surfaces of the under sides of the presser-boards 23 may be roughened, corrugated, or otherwise suitably treated instead of being provided with the prongs or barbs shown in Fig. 1 of the drawings, and the same may be said with regard to the under side of the presser-plate 44. In short, be it understood that we reserve to ourselves the exclusive right to any changes, alterations, or modifications which may be resorted to without sacrificing the utility of our invention or departing from the spirit or scope thereof.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a machine of the class described, a series of snapping-rolls arranged in pairs in an approximately vertical position with their upper ends slightly tilted in a forward direction, in combination with means for feeding stalks in the direction of their lengths between said rolls, substantially as set forth.

2. In a machine of the class described, a series of snapping-rolls yieldably mounted in pairs in an approximately vertical position with their upper ends slightly tilted in a forward direction, in combination with means for feeding stalks in the direction of their lengths between said rolls, substantially as set forth.

3. In a machine of the class described, a series of corrugated snapping-rolls yieldably mounted in pairs in an approximately vertical position with their upper ends slightly tilted in a forward direction, in combination with

means for feeding stalks in the direction of their lengths between said rolls, whereby stalks thus fed shall be caused to travel simultaneously in a rearward and an upward direction, substantially as set forth.

4. In a machine of the class described, a series of snapping-rolls arranged in pairs in an approximately vertical position with their upper ends slightly tilted in a forward direction, in combination with guide-shields interposed between the said pairs of rolls and having their central portions projected in front of said rolls, substantially as set forth.

5. In a machine of the class described, a series of corrugated snapping-rolls yieldably mounted in pairs in an approximately vertical position with their upper ends slightly tilted in a forward direction, in combination with guides disposed intermediately between the pairs of rolls, having their front portions projected in front of said rolls and having their rear edges so disposed as to prevent the passage of stalks between said edges and the said rolls, substantially as set forth.

6. In a machine of the class described, a horizontally-disposed guide-table, an endless carrier thereon, vertically or approximately vertically disposed snapping-rolls arranged with their lower ends a short distance in rear of the feed-table, said snapping-rolls being arranged and operated in pairs, and guide-shields disposed between, and spaced in, the said pairs of rolls thereby providing vertical open spaces between the stalks of corn passing through the machine to permit the ears, snapped from the stalks by the action of the rolls, to drop between the latter and the rear end of the feed-table, substantially as set forth.

7. In a machine of the class described, an approximately horizontal feed-table having an endless carrier, approximately vertical snapping-rolls arranged in pairs a short distance in rear of said feed-table, shields disposed between the pairs of rolls and serving to separate and to guide the stalks, and guides connecting the sides of the feed-table with the upper part of the roller-frame, substantially as set forth.

8. In a machine of the class described, a husk-loosening device comprising an endless carrier and a plurality of independently-hinged presser-boards, the free ends of said presser-boards being independently adjustable with relation to the endless carrier, substantially as set forth.

9. In a machine of the class described, a husk-loosening device comprising an endless carrier barbed or otherwise constructed to grip the ears of corn, and a plurality of hinged, independently-adjustable, presser-boards, substantially as set forth.

10. In a machine of the class described, a husk-loosening device comprising an endless carrier constructed to engage and to grip the ears of corn, and a plurality of independently-adjustable presser-boards, roughened to

shred and loosen the husks of the corn passing beneath said presser-boards, substantially as set forth.

11. In a machine of the class described, a husk-loosening device comprising an endless carrier having a rough surface, a plurality of presser-boards mounted independently upon a spring-pressed shaft, springs arranged to force the latter in the direction of the endless carrier, and means for independently adjusting the free ends of the individual presser-boards, substantially as set forth.

12. In a machine of the class described, a husk-loosening device comprising an endless carrier, a plurality of independently-hinged presser-boards, a shaft supporting said presser-boards and itself mounted in the arms of a pair of bell-crank levers, and springs disposed to bear against the upper ends of said bell-cranks to force the hinged ends of said presser-boards in the direction of the endless carrier to an extent limited by the length of the links or arms of the bell-cranks in which the supporting-shaft of said presser-boards is mounted, substantially as set forth.

13. In a machine of the class described, the combination of an approximately horizontal feed-table having an endless carrier, approximately vertical snapping-rolls arranged with their lower ends a short distance in rear of the feed-table, an endless carrier arranged below said rolls and extending in a forward direction under the feed-table, bell-cranks mounted upon the roller-shaft, at the rear end of the latter, a shaft mounted in the downward-extending arms of said bell-cranks, springs attached to the feed-table and exerting downward pressure upon the forwardly-extending arms of said bell-cranks, presser-boards mounted independently upon the shafts carried by said bell-cranks and held thereby facing the endless carrier, and means for independently adjusting the free ends of the presser-boards, substantially as set forth.

14. In a machine of the class described, a roll adapted for engaging the ears of corn to strip the husks from the same, said roll being provided with a covering of rubber exteriorly cylindrical for the greater portion of the length of the roll and thence tapered for a portion of the remaining length, substantially as set forth.

15. In a machine of the class described, a roll adapted for engagement with the ears of corn to strip the husks from the same, said roll being fluted longitudinally throughout its length and provided with a covering of rubber exteriorly cylindrical for the greater portion of the length of the roll and thence tapered for a portion of the remaining length, substantially as set forth.

16. In a machine of the class described, a husk-stripping mechanism comprising a plurality of stripping-rolls arranged in an inclined position and having exteriorly-cylindrical rubber-covered front portions contacting with each other, said rubber-covered por-

tions being tapered toward the receiving ends, in combination with a carrier and husk-loosening mechanism disposed above the receiving ends of the husk-stripping rolls, substantially as set forth.

17. In a machine of the class described, a husk-stripping mechanism comprising a plurality of rolls mounted in an inclined position, shafts arranged above said stripping-rolls, a presser-plate, yieldably connected with and supported by eccentric disks upon said shafts, and means for imparting to said presser-plate a longitudinally-reciprocatory movement, substantially as set forth.

18. In a machine of the class described, a husk-stripping mechanism comprising a plurality of rolls having cylindrical portions contacting with each other, guide-strips arranged between alternate pairs of rolls, a yieldably-supported longitudinally and vertically movable presser-plate, and cleats upon the under side of the latter, said cleats being disposed to afford room for the guide-strips allowing for the movement of the presser-plate, substantially as set forth.

19. In a machine of the class described, the

combination of a plurality of husk-stripping rolls, guide-strips disposed above alternate pairs of rolls, a yieldably-supported longitudinally and vertically movable presser-plate, and cleats upon the under side of the latter spaced apart to accommodate the guide-strips, and having roughened under surfaces, substantially as set forth.

20. In a machine of the class described, the combination with the stripping mechanism comprising a plurality of rolls arranged in an inclined position, and a reciprocating yieldingly-supported presser-plate, of a husk-loosening mechanism comprising an endless carrier arranged to discharge upon the upper tapered ends of the stripping-rolls, and a plurality of independently-movable presser-boards, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOHN W. BELLAIRS.

JAMES H. LANGTON.

Witnesses:

VICTOR H. TODD,

EDW. F. HACKMAN.