

No. 641,766.

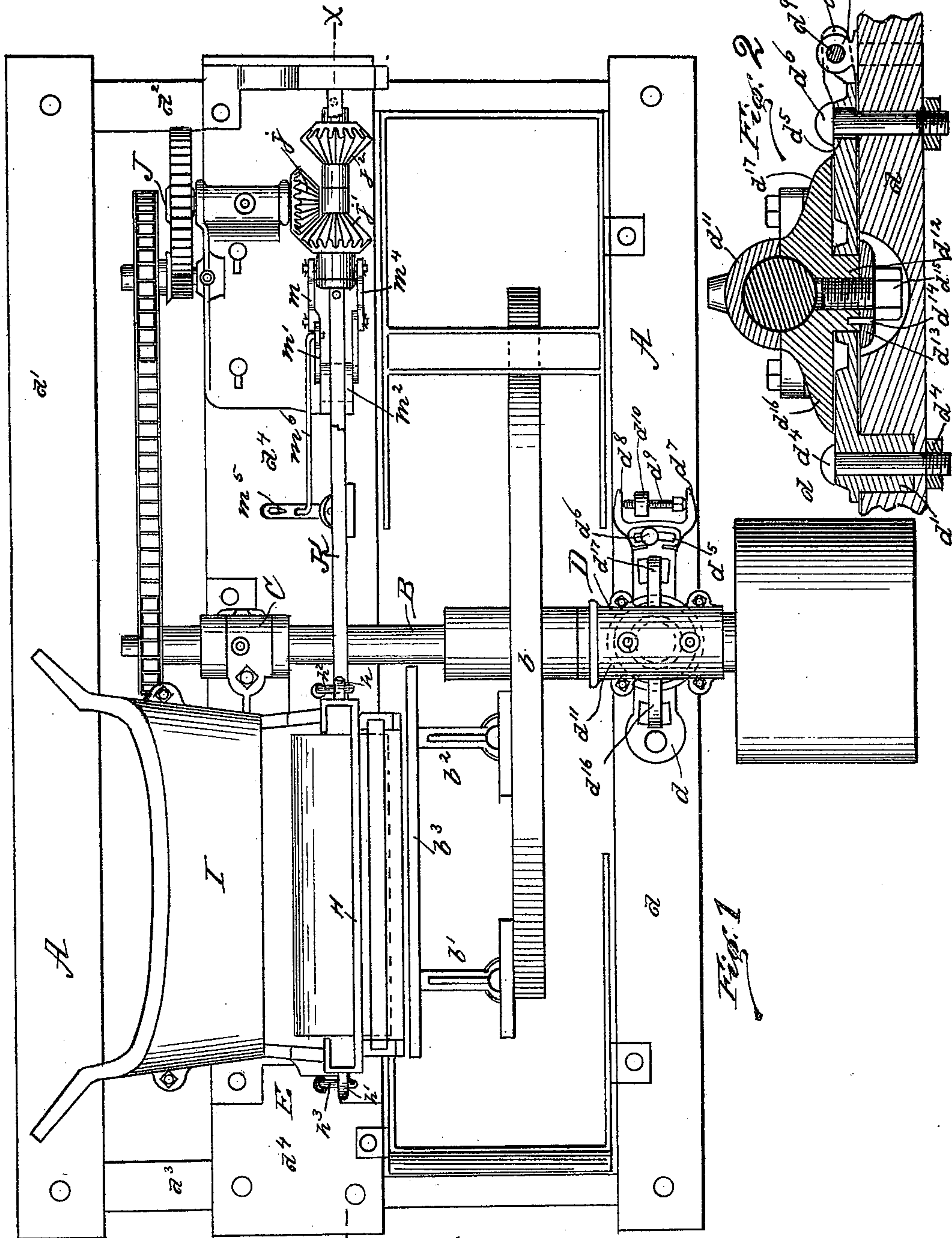
Patented Jan. 23, 1900.

J. DICK.  
FODDER CUTTER.

(Application filed May 2, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES  
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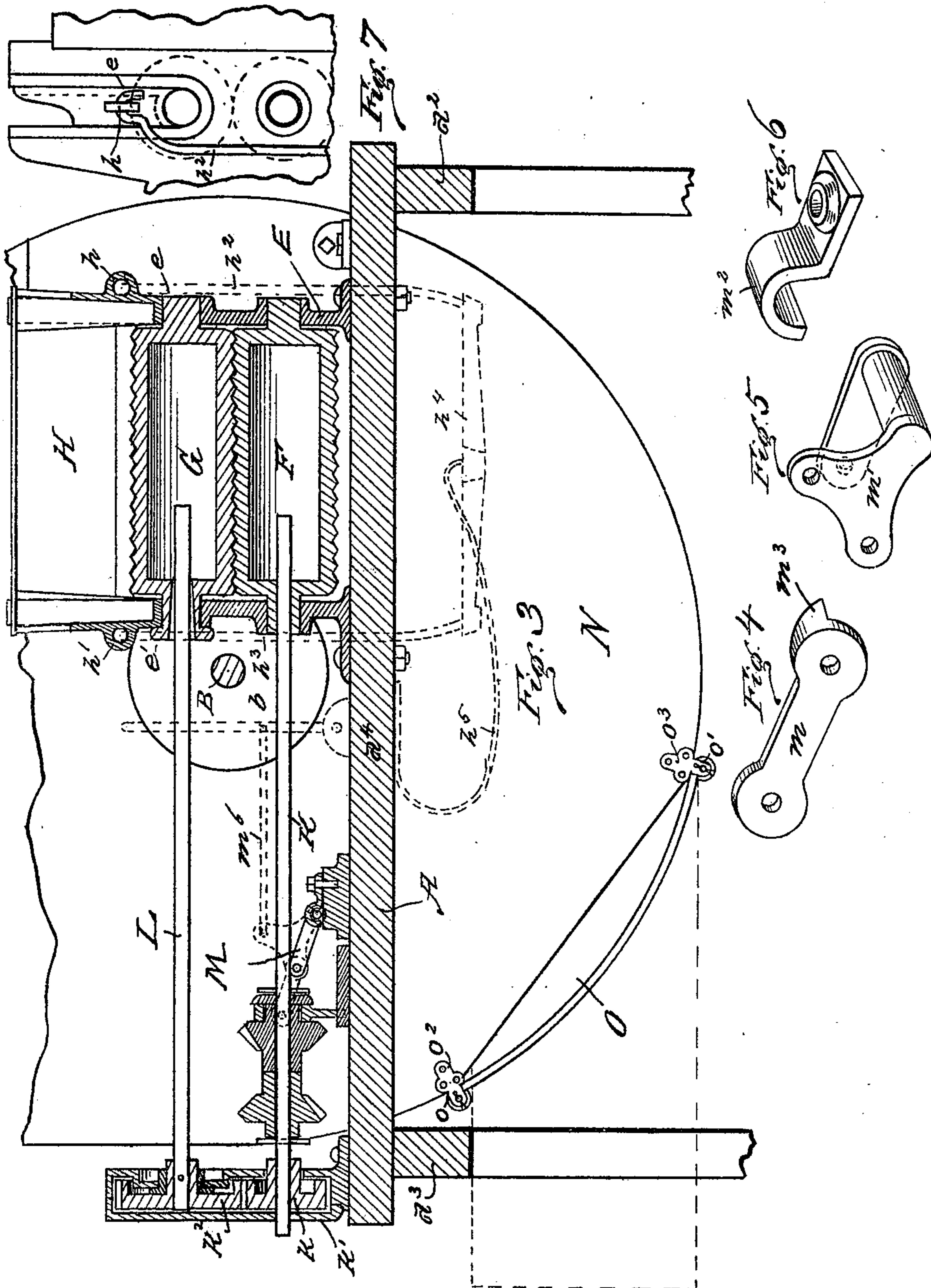
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WITNESSES

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INVENTOR

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# UNITED STATES PATENT OFFICE.

JOSEPH DICK, OF CANTON, OHIO.

## FODDER-CUTTER.

SPECIFICATION forming part of Letters Patent No. 641,766, dated January 23, 1900.

Application filed May 2, 1898. Serial No. 679,485. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH DICK, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have  
5 invented new and useful Improvements in Fodder-Cutters, of which the following is a specification.

My invention relates to improvements in fodder-cutters and the arrangement and combination of parts by means of which the driving-shaft carrying the rotatable cutters may  
10 be adjusted to and from the feed-bar while the machine is in operation and in providing means by which the corrugated feed-rollers  
15 may be adapted to any thickness of material and a sliding curtain is adapted to conform to the position of the upper feed-roller, thus closing the fan-casing.

In the accompanying drawings similar letters  
20 of reference refer to similar parts.

Figure 1 is a top view of the machine. Fig. 2 is a sectional view through the center of the adjustable box carrying the driving-shaft. Fig. 3 is a longitudinal sectional view through  
25 X X. Fig. 4 is a detailed perspective view of the connecting-link of the shifting mechanism. Fig. 5 is a detailed perspective view of the crank-arm. Fig. 6 is a detailed perspective view of the cleat by means of which  
30 the crank-arm is held in position on the frame of the machine. Fig. 7 is a side view of the upper part of the frame carrying the feed-rollers.

A represents the frame of the machine,  
35 which may be of any desired form, adapted to be mounted upon supports, and consists of two sills  $a$   $a'$  and two connecting-sills  $a^2$   $a^3$ , securely bolted together. Extending longitudinally across the machine there is provided  
40 a flat piece of timber  $a^4$ , forming a bed-plate, upon which are mounted various parts of the machine. The driving-shaft B, carrying the fly-wheel  $b$ , to which are attached the adjustable brackets  $b'$   $b^2$ , carrying the cutters  $b^3$ , is  
45 journaled at one end in a forward box C, which may be of any desired form, and at the other in the adjustable box D, mounted on the sill  $a$ . The adjustable box D, a sectional view of which is shown in Fig. 2, consists of  
50 the plate  $d$ , having cast integral therewith the boss  $d'$ , adapted to be countersunk in the sill and held in pivotal engagement therewith

by means of the nut  $d^4$ . Upon the other side of the plate there is provided a segmental slot  $d^5$ , and for the purpose of retaining the plate  
55 at this side in engagement with the sill a bolt  $d^6$  is passed through the slot and sill in such a manner as to permit of the plate being adjusted forward or backward. The end of the plate is bifurcated. The two jaws thereof  $d^7$   
60 and  $d^8$  engage the adjusting screw-threaded bolt  $d^9$ , which passes through a screw-threaded boss  $d^{10}$ , which is countersunk or driven into the sill. The turning of the nut upon the bolt  $d^9$  causes the plate to travel in or out  
65 and to carry with it the journal-box  $d^{11}$ , which is swiveled in the plate, thus holding the driving-shaft B in line in its forward and backward movement. The box  $d^{11}$  is swiveled to the plate by means of a boss or lug  $d^{12}$  upon  
70 its under side which passes through a corresponding hole in the plate, and a collar  $d^{13}$  is then held in engagement with the journal-box by means of the pin  $d^{14}$  and a screw-threaded bolt  $d^{15}$ , which passes through the  
75 collar and is received in a screw-threaded aperture in the bottom of the box. To prevent the lateral movement or vibration of the box, there are provided upon both sides thereof  
80 the projecting stays or lugs  $d^{16}$  and  $d^{17}$ , the under sides of which rest upon the plate. By means of this adjustable box, the cutters having first been adjusted to the cutter bar or plate, if there should be any change or displacement in the adjustment the cutters can  
85 be moved forward or backward by the turning of the nut upon the adjustable bolt  $d^9$  while the machine is in operation, thus saving the time lost in the stopping of the machine and in the employment of the ordinary  
90 means of adjustment.

Upon the longitudinal bed-plate  $a^4$  there is mounted a metallic frame E, having journaled therein the lower roller F and the upper roller G. The upper roller is journaled  
95 in slots  $e$   $e'$ , formed on either side of the frame E, thus permitting the vertical movement of the upper roller G. The rollers F and G are corrugated, and there is also mounted in the slotted apertures  $e$   $e'$  an apron H, the lower  
100 edge of which is corrugated to correspond with the corrugations on the upper roller G. The sides or wings of the apron rest in the grooves in the frame E, and the bottom of the



wings are curved to form the upper portion of the boxing for the shafts or journals of the roller G. The apron H has cast upon either side and integral therewith lugs  $h$   $h'$ , which  
 5 engage with connecting-rods  $h^2$  and  $h^3$ , which are attached to the coupling-bar  $h^4$ , and the apron is held in engagement with the upper roller and caused to travel therewith by means of the spring  $h^5$ , bolted to the under side of  
 10 the plate  $a^4$  and to the coupling-bar  $h^4$ . There is also attached to the plate and may be cast either integral therewith or separate therefrom the hood I, through which the fodder is fed to the rollers.

15 Upon the inner end of the driving-shaft there is mounted a sprocket-wheel, which communicates with a driving-train of cog-wheels by means of a linked belt, which in turn communicates the power to a shaft J,  
 20 which is journaled upon a plate bolted to one side of the machine. Upon one end of the shaft J there is mounted a beveled gear-wheel  $j$ , which engages with the reversible gear-wheels  $j'$  and  $j^2$ , carried upon the square shaft  
 25 K, one end of which has a sliding connection with the lower roller F and at the other end with the cog-wheel  $k$ , journaled in a frame  $k'$ , securely bolted to the end of the bed-plate  $a^4$ , in which there is also journaled the cog-wheel  
 30  $k^2$ , to which there is attached at one end the square shaft L, while the other end is connected with the upper roller G. The opening in the inner end of the upper roller G which receives the shaft L is made tapering, so as  
 35 to be more readily adapted to the varying upward and downward movement of the roller G to correspond with the feed.

The squared end of the shaft  $l$  projects through the hub and head of the feed-roll G,  
 40 and the said hub and head are formed with a square inwardly-tapering axial aperture to receive said shaft and maintain the drive, while permitting the rise and fall of said roll.

To reverse the machine, I provide a toggle-joint-shifting device M, which consists of four  
 45 parts—the connecting-links  $m$  and  $m^4$ , the crank-arm  $m'$ , and the cleat  $m^2$ . The crank-arm  $m'$  is substantially U-shaped in form and is held in position on the bed-plate by means  
 50 of the cleat  $m^2$ . The connecting-link  $m$  is pivotally connected to the sliding collar, which surrounds the hub of the beveled gear-wheel  $j'$ , at one end and at the other to the crank-arm  $m'$ , and upon the end pivotally connected  
 55 to the crank-arm  $m'$  there is formed a projecting lug or stop  $m^3$ . The other arm of the crank-arm also has a link connection with the collar by means of the connecting-link  $m^4$ . The crank-arm is pivotally connected to the  
 60 shifting lever  $m^5$  by means of the link  $m^6$ . In operation the shifting lever  $m^5$  being moved to the right causes the crank-arm to rise until it forms a rigid connection with the connecting-link  $m$  by means of the stop  $m^3$ , and  
 65 thus causes the sprocket gear-wheel  $j$  and the shaft upon which it is mounted to travel to

the right, bringing the sprocket gear-wheel  $j^2$  into engagement with the sprocket gear-wheel  $j$ .

Around the fly-wheel carrying the cutters 70 I provide a metallic drum or casing N, to which there may be attached any desired form of stacker or conveyer. I have provided and shown an adjustable plate O, having attached thereto lugs  $o$  and  $o'$ , which receive bars or 75 pins passing through clips  $o^2$  and  $o^3$ , bolted to the drum or casing N, and when it is desired to take the cut fodder out from the top of the machine, there being a corresponding opening provided at the top of the machine, 80 the plate is retained in position at the lower side of the drum or casing N. If it is desired to take the cut fodder out from the lower part of the drum, the plate O is removed and placed in position over the opening on top of 85 the drum or casing N, the plate O being interchangeable or adapted to the two positions.

Having thus fully described my invention, what I desire to secure and claim by Letters Patent is— 90

1. The combination in a metallic fan-casing of a segmental plate with projecting lugs and stays mounted on either side of the casing, and locking-rods adapted to engage the lugs and stays, substantially as described and 95 for the purpose set forth.

2. A metallic fan-casing for fodder-cutters, having an upper and lower discharge-aperture, and provided with a segmental plate having projecting lugs, clips attached to the 100 sides of the fan-casing, and locking-rods adapted to engage the clips and lugs, substantially as described and for the purpose set forth.

3. In a fodder-cutter, the combination with 105 the supporting-frame provided with a driving-shaft carrying rotatable cutters, with a journal-box having a swiveled connection with a movable plate pivotally connected at one end to a sill of the frame, of the segmentally-slotted plate  $d$  provided with an integral boss  $d'$  and secured in pivotal engagement with the sill by a bolt and nut  $d^4$ , and a bolt  $d^6$  passed through the slot and sill to permit said movable plate to be adjusted forward and 110 backward, substantially as set forth.

4. In a fodder-cutting machine, the combination with the supporting-frame provided with a boss carrying an adjustable bolt, of an adjustable journal-box for the cutter-shaft 120 having a swiveled connection with a movable plate pivoted at one side to said supporting-frame and provided with jaws engaging the adjusting-bolt, substantially as specified.

In testimony whereof I have hereunto set 125 my hand in the presence of two subscribing witnesses.

JOSEPH DICK.

Witnesses:

CHAS. R. MILLER,  
 CHAS. M. BALL.