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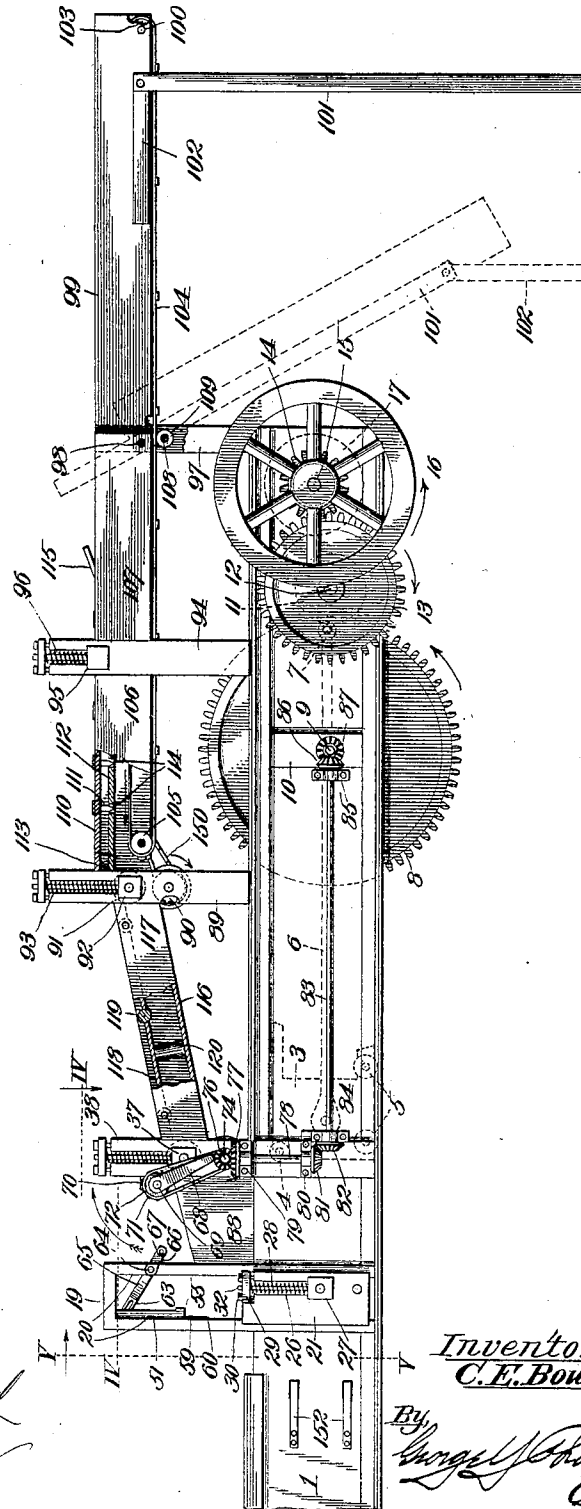
PATENTED JUNE 12, 1906.

C. E. BOWER.
SELF FEEDER FOR BALING PRESSES.

APPLICATION FILED AUG. 1, 1905.

4 SHEETS—SHEET 1.

Fig. 1.



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H. Rodgers.

Inventor:
C. E. Bower.

By
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Att'y.

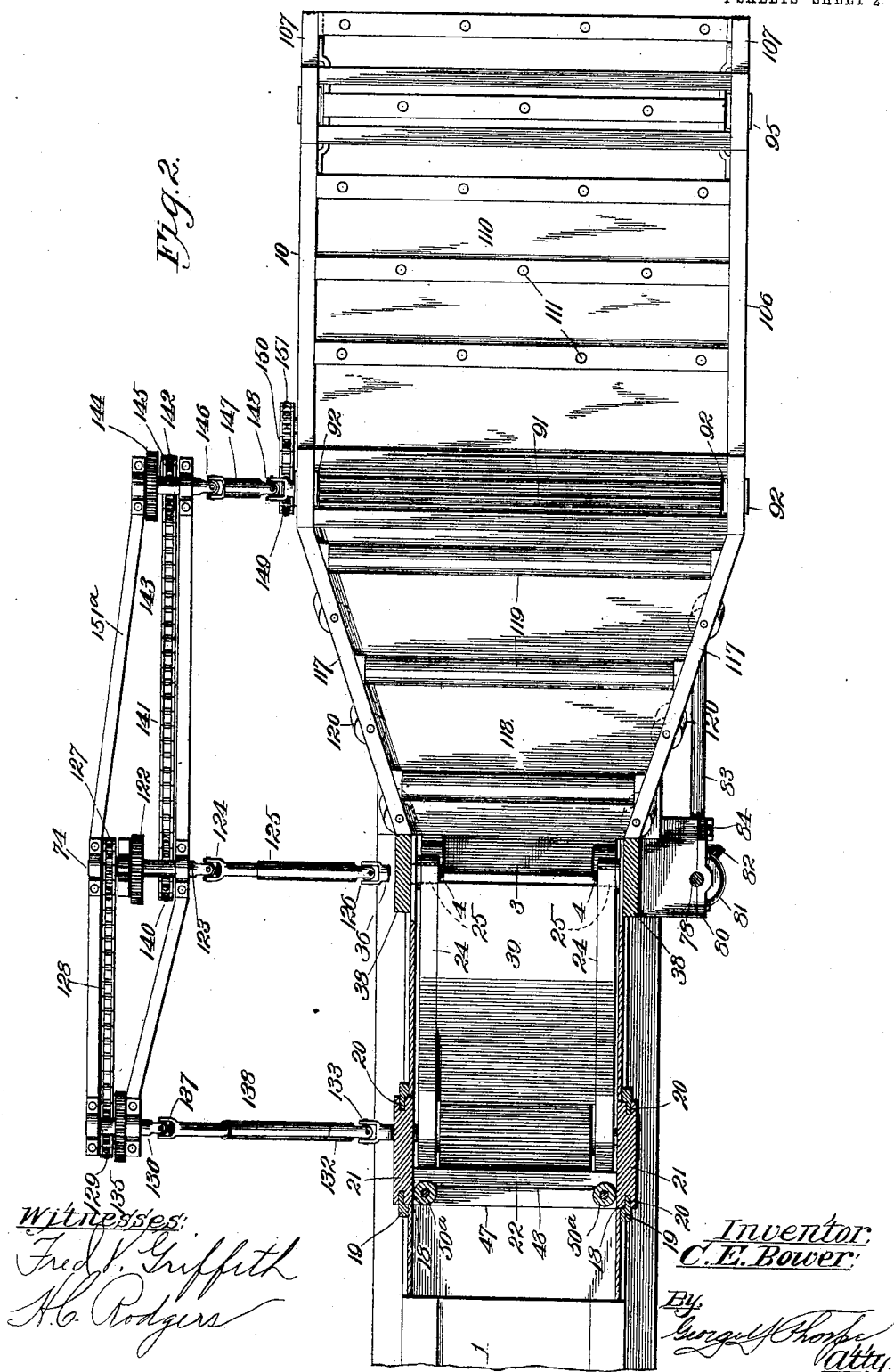
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4 SHEETS—SHEET 2



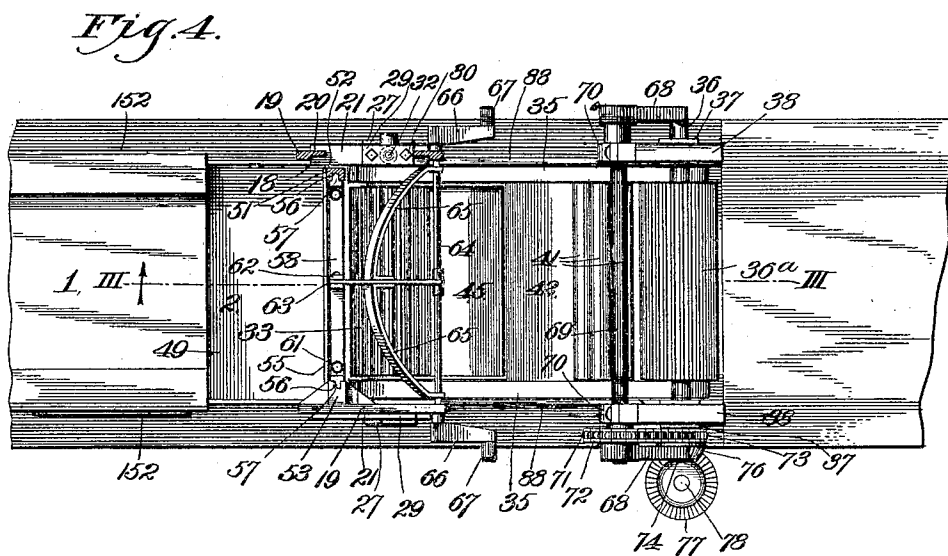
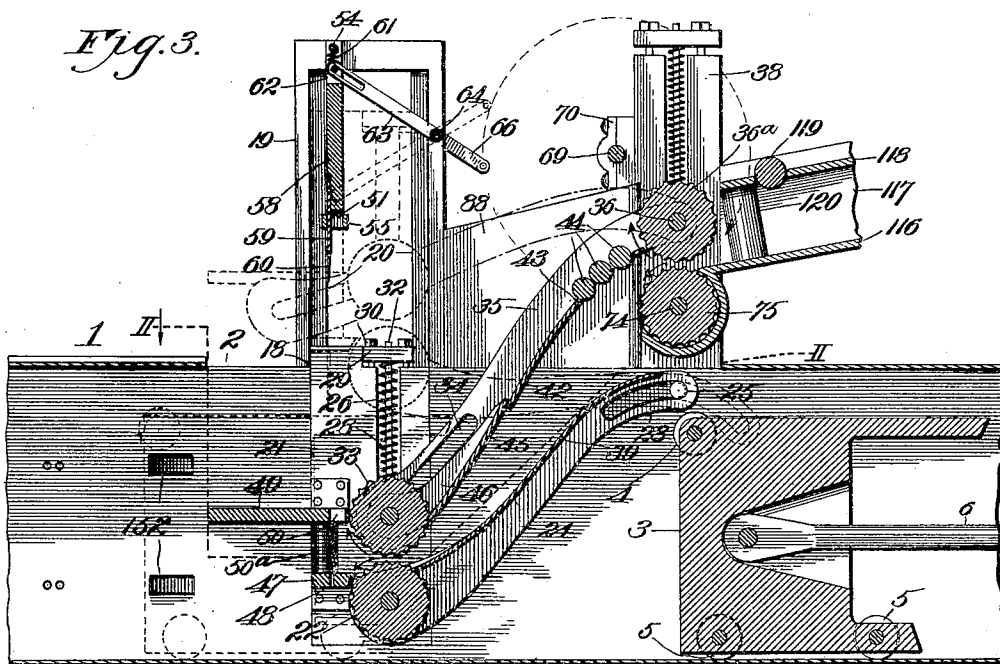
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4 SHEETS—SHEET 3.



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4 SHEETS—SHEET 4.

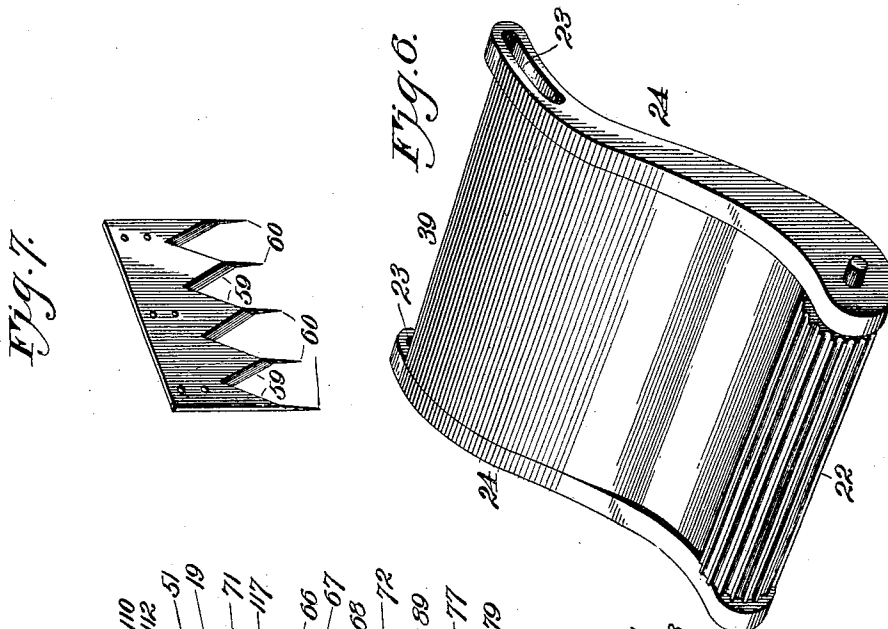
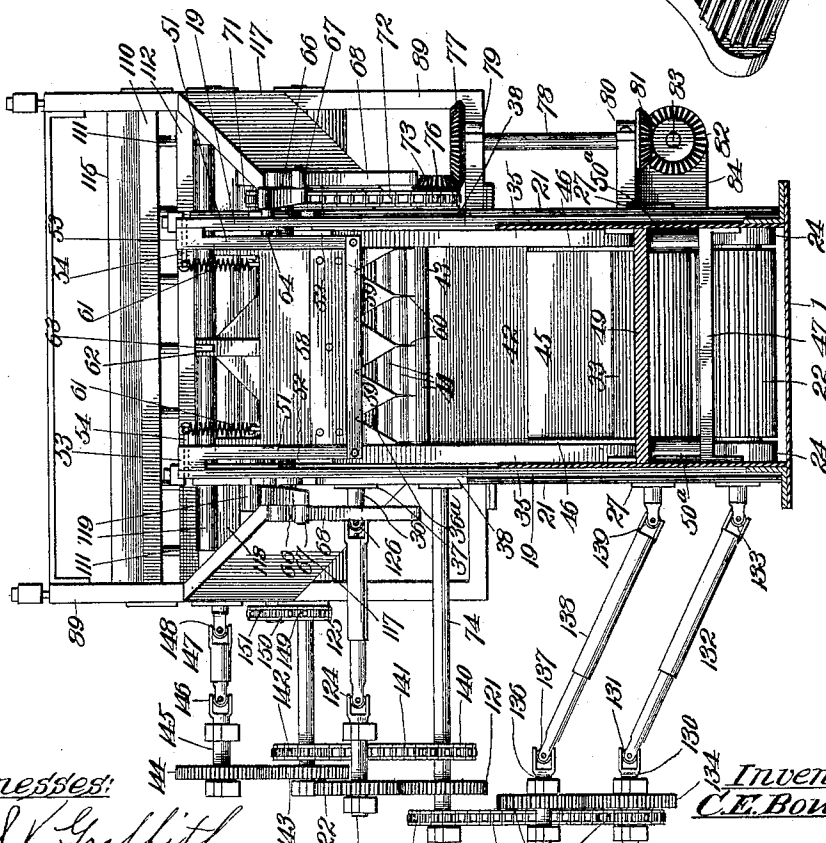


Fig. 5.



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UNITED STATES PATENT OFFICE.

CLARENCE E. BOWER, OF DENVER, COLORADO.

SELF-FEEDER FOR BALING-PRESSES.

No. 822,915.

Specification of Letters Patent.

Patented June 12, 1906.

Application filed August 1, 1905. Serial No. 272,141.

To all whom it may concern:

Be it known that I, CLARENCE E. BOWER, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Self-Feeders for Baling-Presses, of which the following is a specification.

This invention relates to self-feeders for baling-presses, and has for its object to produce mechanism of this character which efficiently, reliably, and expeditiously disposes the baling material in the press.

A further object is to produce mechanism of this character which feeds the baling material into the press in the form of a web and effects the severance of such web within the case just prior to the impact on such web of the plunger.

A still further object is to produce mechanism of this character which accommodates itself to the varying conditions or kinds of baling material so as to avoid the possibility of being choked if the web entering the baling-case be exceptionally thick.

Another object is to produce means for retarding the baling material in case of an overcharge, and thus guarding against the formation of a web of such thickness or depth as to threaten chokeage of the machine.

With these objects in view and others as hereinafter appear the invention consists in certain novel and peculiar features of construction and combinations of parts, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a side elevation, partly broken away, of a baling-press equipped with self-feed attachments embodying my invention. Fig. 2 is an enlarged view, partly in top plan and partly in section, on the line II II of Fig. 3. Fig. 3 is a vertical section on the line III III of Fig. 4. Fig. 4 is a section on the line IV IV of Fig. 1. Fig. 5 is a vertical section on the line V V of Fig. 1 and on the same scale as Figs. 2 to 4, inclusive. Fig. 6 is a detail perspective view of the lower half or bottom of the movable guideway. Fig. 7 is a detail perspective view of the needle-pointed knife.

In the said drawings, 1 indicates a baling-case of the usual rectangular form in cross-section and constructed of any suitable material, as the precise construction of this press is unimportant in this connection. The

press shown has a feed-opening 2 in its upper side and is provided with a reciprocatory plunger 3, which by preference is provided with the antifriction-rollers 4 at the upper corners of its face. The plunger, as usual, may be provided with the supporting-rollers 5 and is connected by the pitman 6 to the crank-pin 7, connecting a pair of gear-wheels 8, arranged, preferably, within and projecting above and below the press, said wheels being mounted rigidly on a transverse shaft 9, journaled in bearings 10, secured to the baling-case. Said wheels intermesh with the gear-pinions 11, secured rigidly on transverse shaft 12, journaled in the case and equipped at opposite sides of the latter with gear-wheels 13, intermeshing with gear-pinions 14, mounted on a transverse shaft 15, journaled in the baling-case, said shaft carrying at one end a fly-wheel 16 and at the other a belt-wheel 17, to which rotation is imparted through the medium of a belt. (Not shown.) As this plunger-actuating mechanism is simply an ordinary train of gearing and forms no indispensable element of the invention, certain of the wheels above referred to appear only in dotted lines, and only a single wheel appears where duplicates are described, it being readily understood that motion imparted to the belt-wheel results in reciprocatory movement of the plunger, and in this connection it should be noted that the openings in the top and bottom of the baling-case through which wheels 8 project also accommodate the revolving crank-pin and the connected end of the pitman.

Near the front end of the feed-opening the side walls of the baling-case are cut away, as at 18, and secured to the outer side of each wall is an inverted-U-shaped frame 19, disposed vertically, the vertical arms of said frame being at opposite sides of said openings, said arms of the frames being provided with vertical tongues 20, slidably engaged by the grooved slide-plates 21, which when they occupy their most depressed positions project slightly above the top of the baling-case by preference.

22 indicates a roll, which by preference is longitudinally fluted, as shown, and has its spindles journaled in the slide-plates 21 and in a pair of swing-arms 24, having longitudinal slots 23, pivotally engaging pins 25, projecting inward from the side walls of the baling-case contiguous to the front end of the feed-opening thereof, said swing-arms con-

verging downward and rearward with respect to the bottom of the baling-case for a purpose which hereinafter appears. Vertically above roll 22 the slide-plates 21 are provided with vertical slots 26, and fitting slidably in said slots are boxes 27, held depressed by expansive coil-springs 28, occupying said slots and pressing at their upper ends against the caps 29, vertically adjustable for the purpose of varying the pressure of the springs by cap-screws 30 engaging the slide-plates 21, the springs being retained in operative position by means of the guide-rods 32, which project vertically upward from the slide-boxes through the springs and caps.

33 indicates a peripherally-fluted roll having its spindles journaled in sliding boxes 27 and engaging the longitudinal slots 34 of a pair of swing-arms 35, said swing-arms being pivoted at their upper ends on a transverse shaft 36, journaled in sliding boxes 37, mounted in vertical standards 38, secured to the opposite sides and externally of the baling-case, said shaft 36 being preferably vertically above the pivotal points 25 of swing-arms 24 and provided with a longitudinally-fluted roll 36^a between said standards 38, and in this connection it should be noted that the swing-arms 35 converge downward and rearward with respect to the lower swing-arms. It will also be noticed that the sliding boxes 37 are held yieldingly depressed by mechanism of the same character and arrangement as that described with relation to sliding box 27, and therefore needs no detail description. The swing-arms 24 are connected in the plane of their upper edges by the cross-plate 39, extending from a point adjacent to the roll 22 nearly to the upper or front ends of the arms.

42 indicates a plate connecting arms 35 in the plane of their lower edges and extending from a point a suitable distance from roll 33 to a point about vertically above the corresponding or rear end of plate 39, and journaled in said arms 35 and depending through an opening 43 in plate 42 are a series of rolls 44. 45 is a slide-plate which occupies the plane of the lower edge of arms 35 from roll 33 to a point above and overlapping plate 42, and said plate 45 is provided with arms 46, which pivotally engage the spindles of roll 33 and fit snugly between the ends of said roll and said arms 35. The arms and their respective fixed plates and slide-plates constitute a guideway having its delivery end adapted to discharge at varying altitudes, as hereinafter explained, and by reason of the fact that the upper swing-arms and their connections, which may be termed the "top" of the guideway, are held yieldingly depressed at each end it is obvious that the web of baling material passing between the guideways may vary in thickness without interrupting the feeding operation. It will also be apparent that upward-swinging movement of the bot-

tom of the guideway—viz., arms 24, and the roll connecting the plates carried by said arms—will cause like movement on the part of the superposed roll and the top of the guideway, the spindles of said rolls sliding forwardly in the slots of said arms and the slide-plates having like movement with respect to the stationary plate, said parts moving in the opposite direction when said swing-arms are again depressed. In this connection it will of course be understood that the upward-swinging movement of the bottom of the guideway is accompanied by upward movement of the slide-plates 21 and that the weight of said slide-plates and the connected parts return them to their originally-depressed positions.

47 indicates a horizontal cross-bar rigidly connecting the slide-plates 21 rearward and near the upper surface of the roll 22, and said plate 47 is provided with a narrow transverse slot 48 for a purpose which hereinafter appears. Secured rigidly to plates 21 above plate 47 and rearward of and in about the same plane as the center of roll 33 is a horizontal plate 49, which projects rearward beyond the guide-frame 19 a suitable distance for a purpose which is hereinafter explained, and said plate is provided with a transverse slot 50, disposed vertically above slot 48, but of somewhat greater width, a pair of rolls 50^a being journaled between plates 47 49 at the ends of slot 48.

51 indicates a pair of vertical guide-bars arranged inward of the rear arms of guide-frames 19, so as to provide slots 52, wherein slide-plates 21 may reciprocate, the bars 51 being widened at their upper ends, as at 53, so as to fit snugly against said guide-frames and be secured thereto by bolts 54. The lower ends of said bars 51 are connected by cross-braces 55, and the bars 51 are provided at their inner sides with grooves 56 in the vertical plane of slots 48 and 50, and engaging the grooves of said bars are the tongues 57 of the transverse frame 58, equipped with a depending knife in the form of a series of sickle-sections 59, having their beveled edges disposed forwardly and provided at their points with depending needles 60. This knife-carrying slide-frame 58 is normally held elevated in the position shown in Figs. 3 and 5 by retractile springs 61, connected at their lower ends to said slide and at their upper ends to bolts 54, as shown most clearly in the last-named figure. Projecting upward from the center of the knife-carrying slide is a bifurcated arm 62, and pivoted therein is the front end of a lever comprising arm 63 and fulcrum-rod 64, said rod being journaled in the front pair of arms of the standards 19, as shown most clearly in Figs. 3 and 4, the lever-arm being braced from the fulcrum-rod by means of braces 65.

66 represents forwardly-projecting crank-

arms mounted on the ends of fulcrum-rods 64 and equipped at their outer sides and front ends with antifriction-rollers 67, occupying the path of circular movement of the rounded ends of the crank-arms 68 of transverse shaft 69, journaled in bearings 70 of vertical standards 38.

71 indicates a sprocket-wheel rigidly secured on shaft 69 and connected by chain 72 to sprocket-wheel 73, secured rigidly on the end of the shaft 74, journaled in standards 38 and equipped between said standards with a transverse roller 75, sprocket-wheel 73 having preferably half as many teeth as sprocket-wheel 71. Secured rigidly on one end of said shaft is a bevel gear-wheel 76, having the same number of teeth as sprocket-wheels 73 and meshing with a bevel-gear 77 of twice the number of teeth, said wheel 77 being secured upon the upper end of shaft 78, journaled in bearings 79, secured to standards 38 and 80, secured to the sides of the baling-case. Secured to the lower end of said shaft is a bevel-gear 81, meshing with bevel-gear 82 on the longitudinally-extending shaft 83, journaled in bearings 84 and 85, secured to the baling-case, bevel-gear 86 on the front end of shaft 83 meshing with bevel-gear 87 on the end of shaft 9, the arrangement being such that with each compression-stroke of the plunger there will be one revolution of crank-arms 68, and, through the action of said arms on the rock-lever, one depression of the cutting mechanism, it being noted in this connection that it requires only about one-tenth of a revolution of said arms 68 to effect the full depression of the cutting mechanism, and consequently that the action of the latter is at a ratio of about ten to one with regard to the speed of the plunger, the springs 61 reëlevating the cutting mechanism the instant after said arms 68 clear rollers 67 in order that the advance of the web of baling material shall not be impeded by and pile up against the knife. Between standards 19 and 38 the side walls are provided with upward extensions 88, which form sides for the vertically-movable guideway hereinbefore described for the purpose of insuring the passage of the web of baling material passing through said guideway down into the baling-case through the feed-opening thereof.

89 indicates standards rising from the baling-case and disposed apart a distance exceeding the width of the latter.

90 indicates a transverse feed-roll having its shaft journaled in standards 89 at a suitable height above the baling-case, and 91 a similar roll having its shaft journaled in vertical slidable boxes 92, mounted in the standards and held depressed by springs 93.

94 indicates a second set of standards erected upon the baling-case and about the same distance apart as standards 89, and mounted slidably in the upper ends of standards 94

are slide-blocks 95, held yieldingly depressed by springs 96.

97 indicates a pair of standards erected upon the front end of the baling-case and connected by a cross-rod 98, and pivotally mounted on said cross-rod and projecting forward therefrom are side bars 99, connected at their front ends by a cross-shaft 100 with coincidently pivoted legs 101 102, the former being employed when the frame 99 occupies a horizontal position and legs 102 when said frame occupies the inclined position shown by dotted lines, Fig. 1. Secured rigidly on shaft 100 is a roller 103, connected by an endless cross-slat or equivalent conveyer 104 to the roller 105, contiguous to and in a higher plane than roll 90, the shaft of said roller 105 being journaled in side boards 106, connecting standards 89 and 94, similar side boards 107 extending forward from standards 94 and mounted on cross-rod 98 at the outer side of sides 99 of the pivoted frame, a roller 108 being journaled on rod 98 between the upper and lower strands of the endless conveyer in order that said strand may bend around said roller when said pivoted frame is swung downward to the position shown in dotted lines, a similar roller 109, carried by and between standards 97, underlying the lower strand of said belt as a bending-point for such strand.

110 indicates a frame connecting side boards 106 and extending from standards 89 to and slightly forward of standards 94, and depending from said frame are sharpened pins 111 for the purpose of preventing an overcharge of baling material from passing to rolls 90 and 91. As long as the feed is uniform these pins do not come into contact with the baling material, because they are shielded by the board 112, pivoted, as at 113, to standards 89 and provided with holes 114, receiving pin 111, said board forward of standards 94 extending obliquely upward, as at 115, for the purpose of reducing the mass of baling material being conveyed upon the endless conveyer to a uniform thickness. In case the volume of material is too great it will press against the under side of board 112 and swing the same upwardly, so as to expose the points of the pins, so that the latter will act as a retarder for the upper part of the web of the material and permit of the passage of the proper volume only to and between rolls 90 and 91, said web of material passing thence into the downwardly and rearwardly extending guideway, consisting of the bottom 116, side walls 117, and top wall 118, the friction between the web of material and said guideway being reduced to the minimum by means of the rollers 119, depending through the top wall, and the upright rollers 120, projecting inwardly of the side walls, it being noted in this connection that this guideway converges rearwardly for the purpose of condensing the

material and reducing its width to approximately that of the movable guideway hereinbefore described.

Referring now particularly to Figs. 2 and 5, it will be noticed that shaft 74, driven as hereinbefore explained, projects some distance beyond one side of the baling-case, and mounted upon said shaft at a suitable point is a gear-wheel 121, meshing with a similar gear 122 on a short shaft 123, said shaft being connected by a universal joint 124 to one member of a telescopic or extensible and contractible shaft 125, the opposite end of said shaft being connected by a universal joint 126 to the contiguous end of shaft 36. This telescopic shaft universally connected, as explained, is provided in order to accommodate the rise and fall of the roll 36^a. 127 indicates a sprocket-wheel mounted on shaft 74 and connected by a chain 128 with a sprocket-wheel 129 on a short shaft 130, disposed in the horizontal plane about half-way between the planes occupied by roll 22 when in its depressed and elevated positions, and said short shaft 130 is connected by a universal joint 131 to one end of a telescopic shaft 132, the other end of said shaft being connected by a universal joint 133 with one end of the shaft of roll 22. 134 indicates a gear-wheel mounted on shaft 130 and meshing with a gear-wheel 135, mounted on a short shaft 136, connected by a universal joint 137 with one end of the telescopic shaft 138, connected by a universal joint 139 at its opposite end to the contiguous end of the shaft of roll 33. This arrangement provides for a rotary movement of the rolls 22 and 33 without interfering with their vertical movement. 140 indicates a second sprocket-wheel mounted on shaft 74 and connected by a chain 141 with a sprocket-wheel 142 on the extended end of the shaft of roll 90, and said shaft is provided with a gear-wheel 143, meshing with the similar gear 144 on the short shaft 145, universally jointed, as at 146, to the telescopic shaft 147, universally connected at its opposite end, as at 148, to the contiguous end of the shaft of roll 91. Also mounted on the shaft of roll 90 is a sprocket-wheel 149, connected by a chain 150 to the sprocket-wheel 151 on the shaft of roller 105 of the endless conveyer.

Through the medium of the gearing described the various shafts of which are journaled in boxings carried by a skeleton frame 151^a, projecting from the baling-case and of the type shown or of any other suitable or preferred type, it will be apparent that the conveyer and the rolls will travel continuously in the directions indicated by the contiguous arrows and in consequence will feed the material, as hereinbefore explained, into the baling-case from the movable guideway. In such operation it will be noted that as the baling-plunger advances its antifriction-roll-

ers 4 will engage the lower edge of the swing-arms 24 of the movable guideway and will cause the same to swing upward without interfering with the movement of the web of baling material through said guideway other than raising said web of material and at the same time the superposed roll 33 and the top of said guideway. It will also be noticed that just before the baling-plunger has made half its compression-stroke—that is, at the moment when the upward movement of the movable guideway ceases—arms 68, moving in the direction indicated, engage the lower sides of said rolls 67 and operate the rock-lever to effect the downstroke of the cutting mechanism. This downstroke takes place as the parts are proportioned about ten times as rapidly as the plunger moves and occurs, as above suggested, at the moment that the upward movement of rolls 22 and 33, and consequently slide plates 21 and bars 47 and 49, ceases. As a result of this downward movement the needles and knife pass successively through slots 50 and 48, the last-named slot being narrow, so that its rear edge shall form, in effect, a stationary shearing surface whereon the knife shears the web of baling material contiguous to the rear sides of rolls 22 and 33, it being understood that the needles depending below the knife act as entering wedges for the points of the knives in order that the latter may perform its function most efficiently and reliably. Furthermore, by opening up such way they take the impact of the baling material from the extreme points of the knife, and thus preserve it in a sharpened condition longer than would be the case if the needles were not employed.

Immediately the cutting action is finished arms 68 clear rollers 67 and permit the springs 61 to instantly reelevate the cutting mechanism to its original position, where it remains until the plunger has completed its stroke and been withdrawn to its original position and is again moving on its next compression-stroke to reelevate the movable guideway. Immediately the cutting mechanism has been withdrawn, as hereinbefore stated, the continuously-moving plunger forces that portion of the baling material severed from the web through the case until it has passed the retainers 152, which prevent it springing back materially as the withdrawal action of the plunger takes place. As the plunger in its withdrawal movement passes forward of the superposed rolls 22 and 33 the latter, with slide-plates 21, move downward, and thereby cause plate 49 to press downward into the baling-chamber that portion of the front end of the web of baling material which, under the continuously-moving feed-rolls, is projected beyond the same during the rear half of the compression and the first half of the withdrawal-

stroke of the plunger—in other words, that portion of the web of baling material which has accumulated at the delivery side of the feed-rolls before the latter have been again depressed to the bottom of the baling-case.

From the above description it will be apparent that I have produced a self-feeder for baling-presses embodying the features of advantage enumerated as desirable in the statement of the object of the invention and which obviously may be modified in its form, proportion, detail construction, and arrangement of the parts without departing from the principle of construction involved.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a self-feeder for baling-presses, a set of feed-rolls, and means to move the same within the baling-case at an angle to its length.

2. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, and means for holding one of said feed-rolls pressed yieldingly toward the other.

3. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, and means to sever the baling material at the delivery side of the feed-rolls.

4. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, and a reciprocatory cutting mechanism to sever the baling material at the delivery side of said rolls.

5. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, a cutting mechanism, means to cause the cutting mechanism to move toward said rolls and cut the baling material at the delivery side of the latter, and means to instantly re-elevate said cutting mechanism, after the cutting operation takes place.

6. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, a pointed knife, needles projecting from and beyond the points of the knife, and means to cause the knife to move toward said rolls and sever the baling material at the delivery side of said rolls after the needles have impaled such material.

7. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, a pointed knife, needles projecting from and beyond the points of the knife, means to cause the knife to move toward said rolls and sever the baling material at the delivery side of said rolls after the needles have impaled such material, and means to instantly

withdraw the knife after the cutting action has occurred.

8. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, and a plunger to reciprocate longitudinally in the baling-case and compress the baling material fed therein by the feed-rolls.

9. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, a plunger to reciprocate longitudinally in the baling-case and compress the baling material fed therein by the feed-rolls, and means for severing the baling material at the delivery side of the feed-rolls before such material is compressed by the plunger.

10. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, a plunger to reciprocate longitudinally in the baling-case and compress the baling material fed therein by the feed-rolls, means for severing the baling material at the delivery side of the feed-rolls before such material is compressed, and means for withdrawing the cutting mechanism from the baling-case before the plunger engages the baling material.

11. In a self-feeder for baling-presses, a set of feed-rolls for feeding a web of material into the case and yieldingly depressed therein, a reciprocatory plunger in the press, and means whereby the compression-stroke of the plunger shall effect the elevation of the feed-rolls and material fed thereby.

12. In a self-feeder for baling-presses, a set of feed-rolls for feeding a web of material into the case and held yieldingly depressed therein a reciprocatory plunger in the press, means whereby the compression-stroke of the plunger shall effect the elevation of the feed-rolls and material fed thereby, and means to sever the web of baling material at the delivery side of the feed-rolls as they attain their elevated positions.

13. In a self-feeder for baling-presses, a set of feed-rolls for feeding a web of material into the case and held yieldingly depressed therein, a reciprocatory plunger in the press, means whereby the compression-stroke of the plunger shall effect the elevation of the feed-rolls and material fed thereby, means to sever the web of baling material at the delivery side of the feed-rolls as they attain their elevated positions, and means to withdraw the cutting mechanism immediately after the cutting action has occurred, out of the path of the plunger.

14. In a self-feeder for baling-presses, a set of feed-rolls for feeding a web of material into the case and held yieldingly depressed therein, a reciprocatory plunger in the press, means whereby the compression-stroke of the plunger shall effect the elevation of the feed-rolls and

material fed thereby, means to sever the web of baling material at the delivery side of the feed-rolls as they attain their elevated positions, means to withdraw the cutting mechanism immediately after the cutting action has occurred, out of the path of the plunger, and means to press the baling material down toward the bottom of the press after the plunger has completed its power-stroke and is making its return stroke.

15. In a self-feeder for baling-presses, a set of feed-rolls, means to move the same within the baling-case at an angle to its length, means to sever the baling material at the delivery side of the feed-rolls, and means to press the front end of the web of baling material toward the bottom of the baling-case.

16. In a self-feeder for baling-presses, a set of driven feed-rolls to feed the baling material into the baling-case in the form of a web and held yielding therein, means to elevate said feed-rolls and the web of material being fed thereby, means to sever the web of baling material at the delivery side of the feed-rolls when the latter are elevated, and a plate movable with the feed-rolls and adapted as it descends therewith to press the severed material at its end contiguous to said rolls, toward the bottom of the baling-case.

17. In a self-feeder for baling-presses, a guideway extending downward and rearward into the baling-case through the feed-opening thereof and provided at its lower end with a set of driven feed-rolls, a reciprocatory plunger in the baling-case, means whereby the guideway is swung upward as the compression-stroke of the plunger occurs, means to sever the web of baling material passing through the guideway and between its rolls as said guideway attains its elevated position, and means to withdraw said cutting mechanism out of the path of the plunger on its compression-stroke.

18. In a self-feeder for baling-presses, a guideway extending downward and rearward into the baling-case through the feed-opening thereof and provided at its lower end with a set of driven feed-rolls, a reciprocatory plunger in the baling-case, means whereby the guideway is swung upward as the compression-stroke of the plunger occurs, means to sever the web of baling material passing through the guideway and between its rolls as said guideway attains its elevated position, means to withdraw said cutting mechanism out of the path of the plunger on its compression-stroke, and means movable with the guideway to depress the severed baling material at its end contiguous to said rolls, during the withdrawal-stroke of the plunger.

19. In a self-feeder for baling-presses, a set of feed-rolls movable in the baling-case at an angle to its length and adapted to feed baling material in the form of a web into said

case, slotted bars at the delivery side of the rolls and between which the baling material also passes, and a reciprocatory knife to move successively through the slotted bars and sever the web of baling material upon the lower one.

20. In a self-feeder for baling-presses, a set of feed-rolls movable in the baling-case at an angle to its length and adapted to feed baling material in the form of a web into said case, slotted bars at the delivery side of the rolls and between which the baling material also passes, a reciprocatory plunger adapted as it makes its power-stroke to move the feed-rolls and slotted bars out of its path, and a reciprocatory knife to move successively through said slotted bars and sever the web of baling material between them as they attain their elevated positions.

21. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the material into said baling-case.

22. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the baling material into said baling-case, means to elevate said delivery-end set of rolls, and means to sever the web of baling material at the delivery side of said set of rolls when elevated.

23. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the baling material into said baling-case, means to elevate said delivery-end set of rolls, means to sever the web of baling material at the delivery side of said set of rolls when elevated, and a reciprocatory plunger to compress the severed portion of the baling material in the case beyond the feed-opening, while said set of feed-rolls are elevated.

24. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the baling material into said baling-case, means to elevate said delivery-end set of rolls, means to sever the web of baling material at the delivery side of said set of rolls when elevated, a reciprocatory plunger to compress the severed portion of the baling material in the case beyond the feed-opening while said set of feed-rolls are elevated, and means movable with said movable set of rolls to depress the severed baling material at its end contiguous to said last-named rolls as the withdrawal-stroke of the plunger occurs.

25. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-

end set are normally depressed into the baling-case through the feed-opening thereof to deliver the material into said baling-case, means to deliver the baling material in the form of a web to the sides of the feed-rolls, and means to retard said web of baling material if passing in excessive volume to the feed-rolls.

26. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the material into said baling-case, means to deliver the material in the form of a web to the sides of the feed-rolls, and retarding mechanism for the material being fed to the rolls if in excessive volume, said mechanism comprising, a series of depending pins, and a vertically-movable guard normally covering said pins and pressing yieldingly down upon the baling material.

27. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the material into said baling-case, means to deliver the material in the form of a web to the sides of the feed-rolls, means to retard the web of baling material if passing in excessive volume to the feed-rolls, and means for holding the upper roll of each set yieldingly depressed.

28. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the material into said baling-case, a conveyer to convey baling material to the first or receiving set of rolls, and means resting yieldingly upon said material to cause it to pass in the form of a web between said receiving-sets of rolls.

29. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the material into said baling-case, a conveyer to convey baling material to the first or receiving set of rolls, means resting yieldingly upon said material to cause it to pass in the form of a web between said receiving-sets of rolls, and means for retarding the baling material passing to said receiving-rolls if in excessive volume.

30. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to

deliver the material into said baling-case, guideways connecting said sets of rolls, one of the guideways sloping downward and rearward and having its sides converging rearwardly to condense the baling material passing therethrough, laterally.

31. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the material into said baling-case, guideways connecting said sets of rolls, one of the guideways sloping downward and rearward and having its sides converging rearwardly to condense laterally the baling material passing therethrough, upright anti-friction-rollers projecting inwardly of the side walls of the guideways, and horizontal anti-friction-rollers protruding below the top of the guideway.

32. In a self-feeder for baling-presses, a series of sets of feed-rolls of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the material to be baled into said baling-case, and means for revolving the feed-rolls.

33. In a self-feeder for baling-presses, a series of sets of feed-rolls, of which the delivery-end set are normally depressed into the baling-case through the feed-opening thereof to deliver the material to be baled into said baling-case, means for driving the lower feed-rolls of each set, shafts driven from said feed-rolls, and telescopic shafts having universal-joint connections at their ends with the last-named shafts and the upper feed-rolls.

34. In a self-feeder for baling-presses, a set of feed-rolls for feeding a web of material into the case and held yieldingly depressed therein, a reciprocatory plunger in the press, means whereby the compression-stroke of the plunger shall effect the elevation of the feed-rolls and material fed thereby, means to sever the web of baling material at the delivery side of the feed-rolls as they attain their elevated positions, means to withdraw the cutting mechanism immediately after the cutting action has occurred, out of the path of the plunger, and means to press the front portion of the web of baling material toward the bottom of the baling-case.

In testimony whereof I affix my signature in the presence of two witnesses.

CLARENCE E. BOWER.

Witnesses:

H. C. RODGERS,
G. Y. THORPE.