

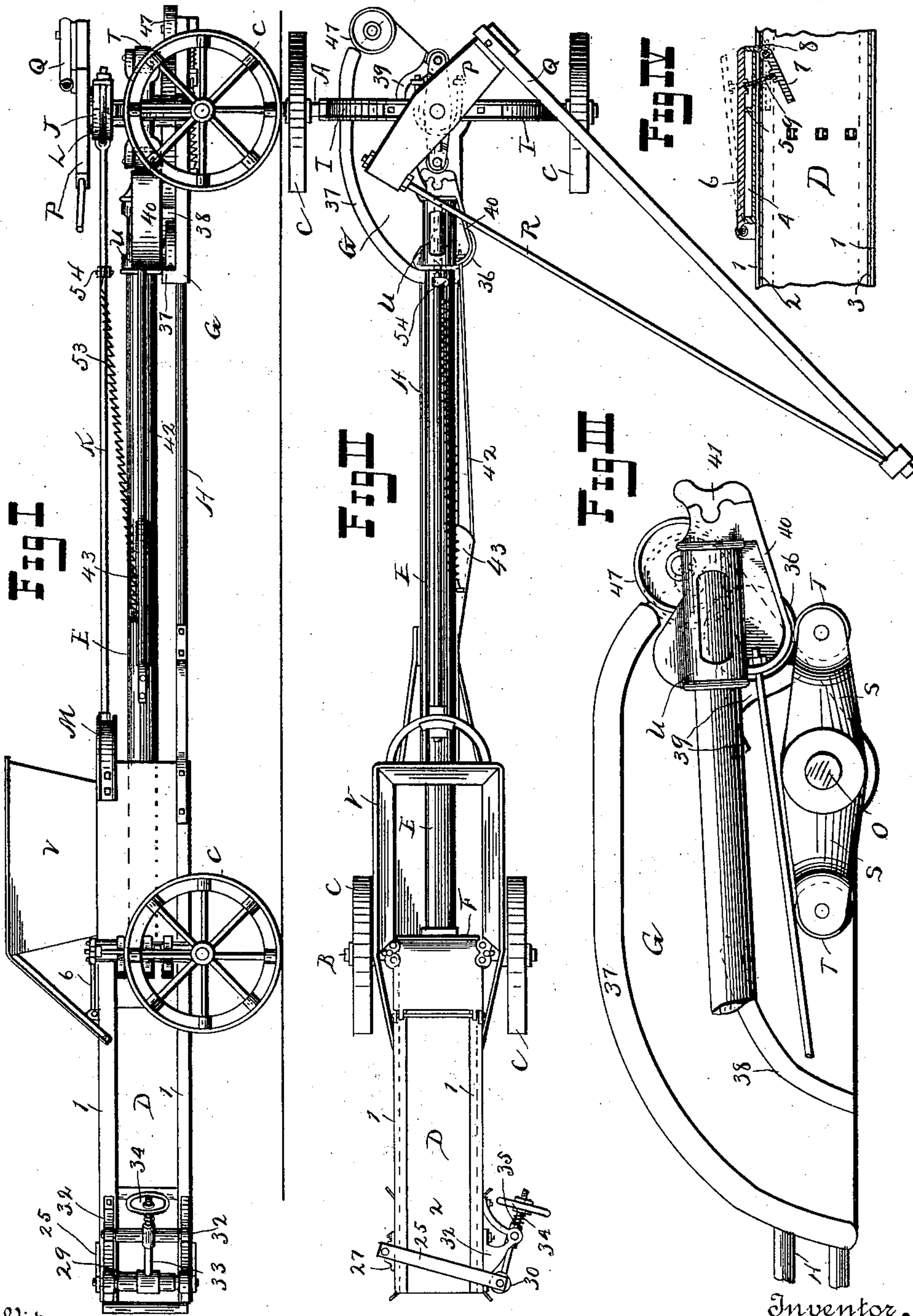
(No Model.)

2 Sheets—Sheet 1.

J. R. GRIFFITH.
BALING PRESS.

No. 568,846.

Patented Oct. 6, 1896.



Inventor.

Witnesses.
George H. House
William Smith

J. R. Griffith.
House and Hadley,
His Attorneys.

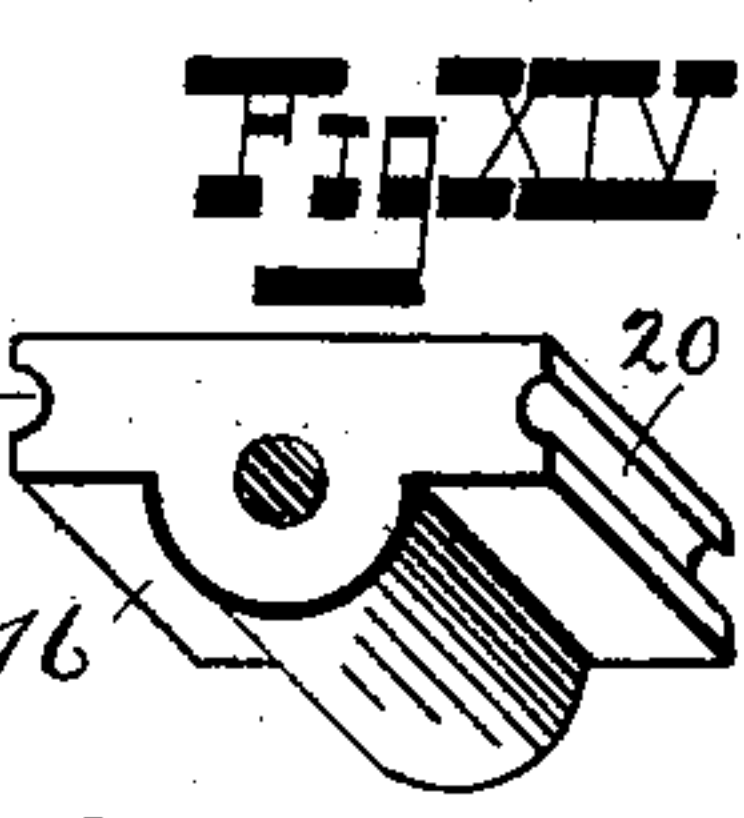
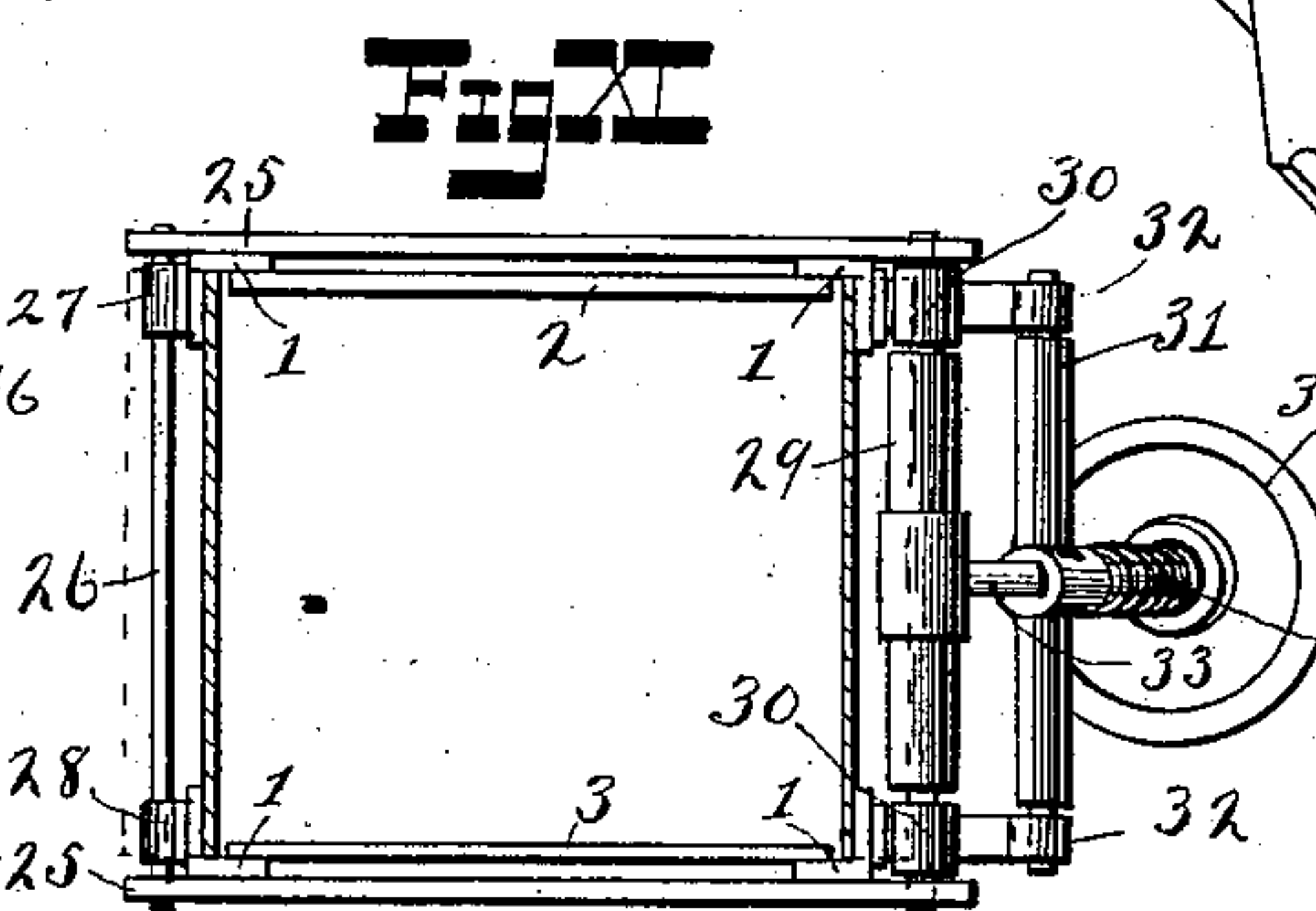
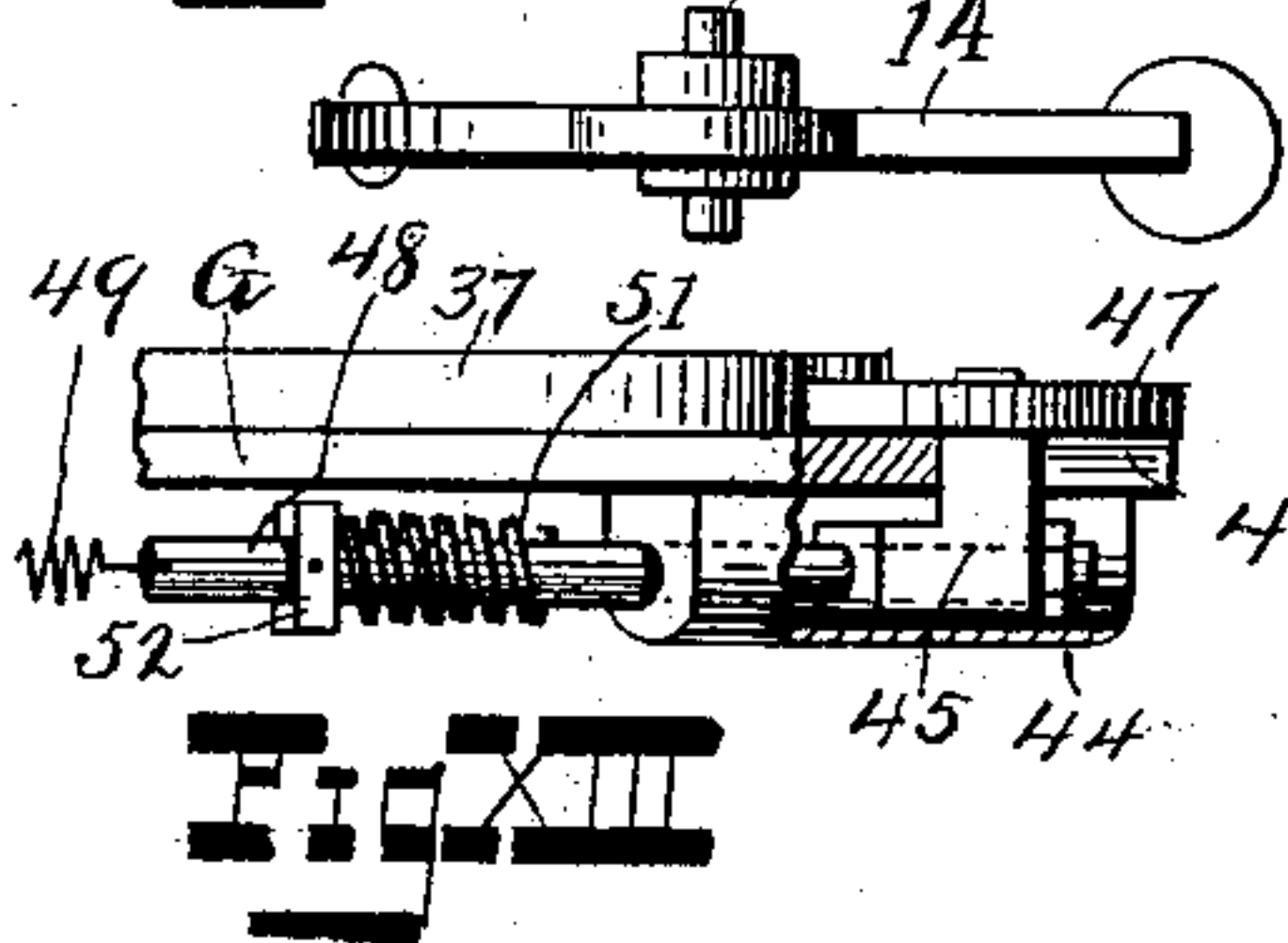
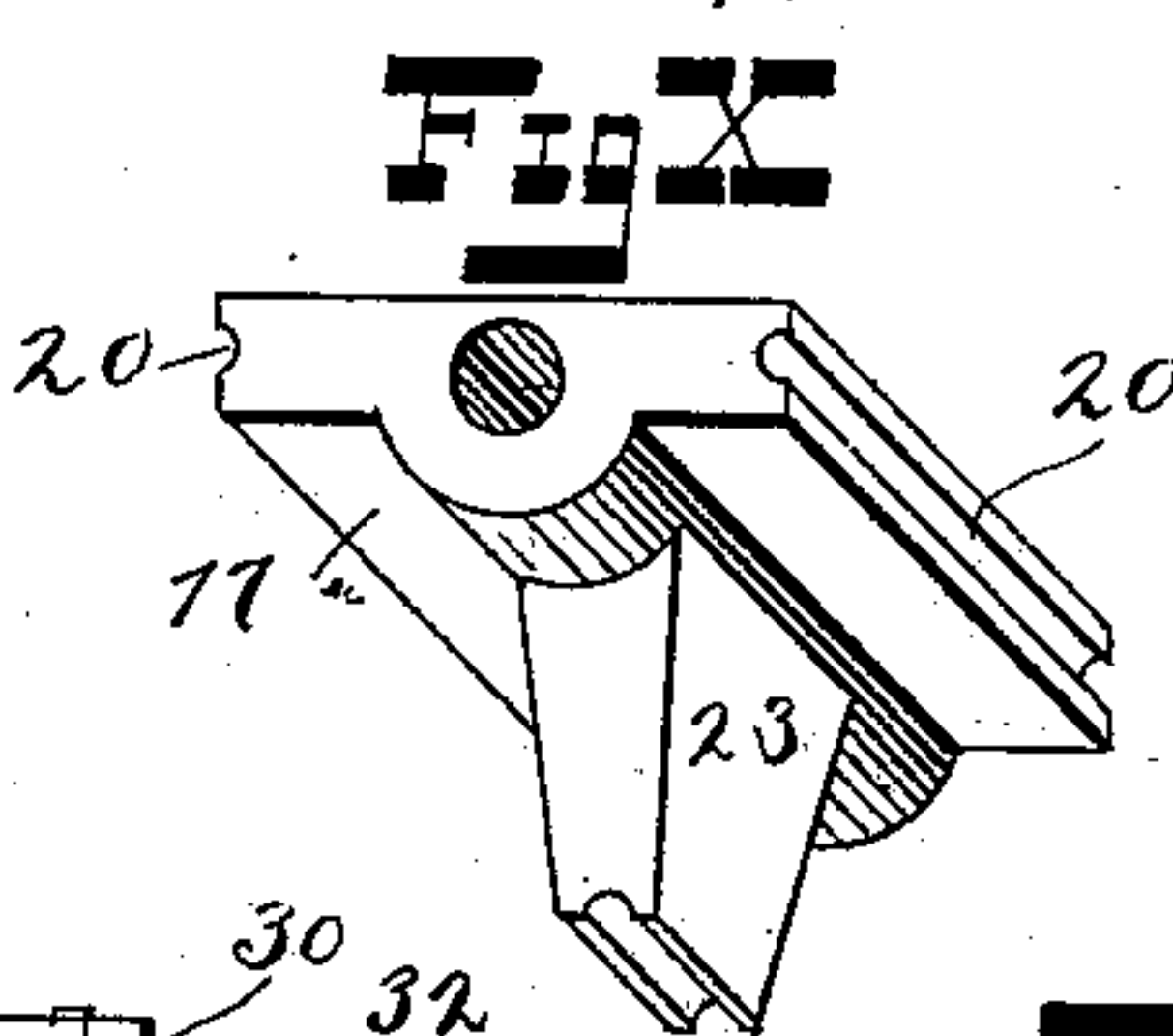
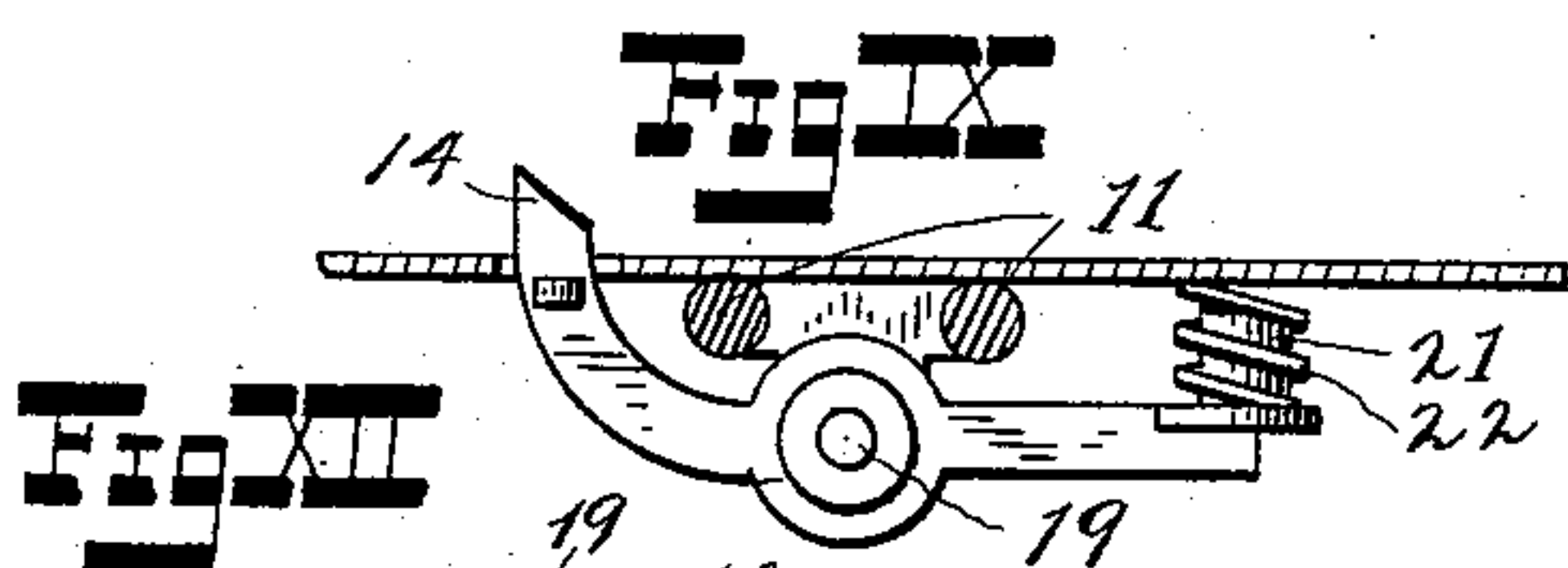
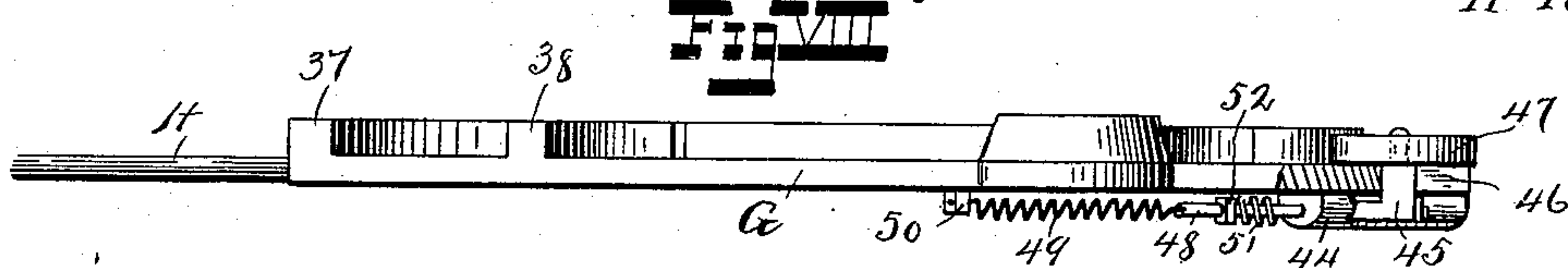
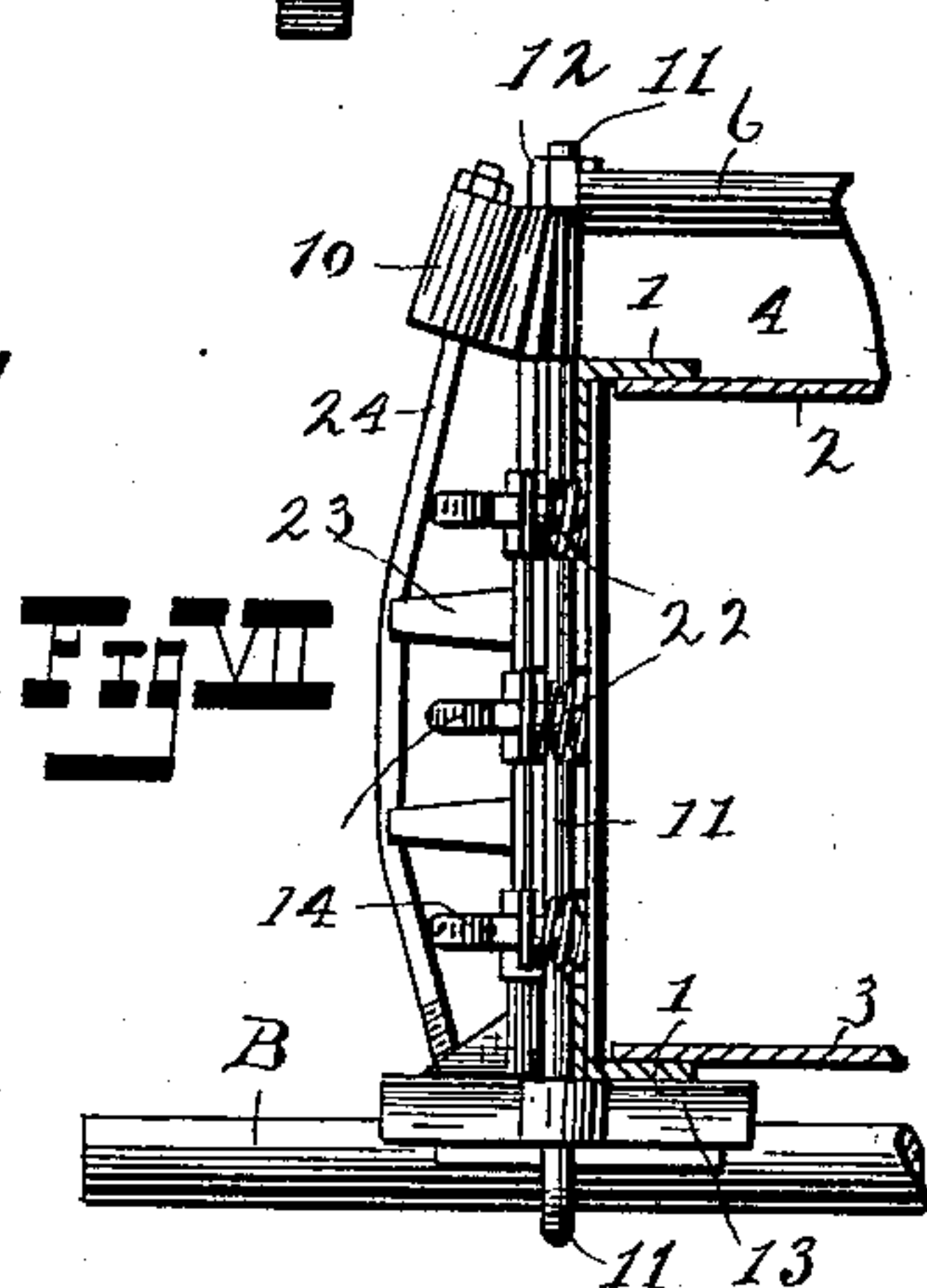
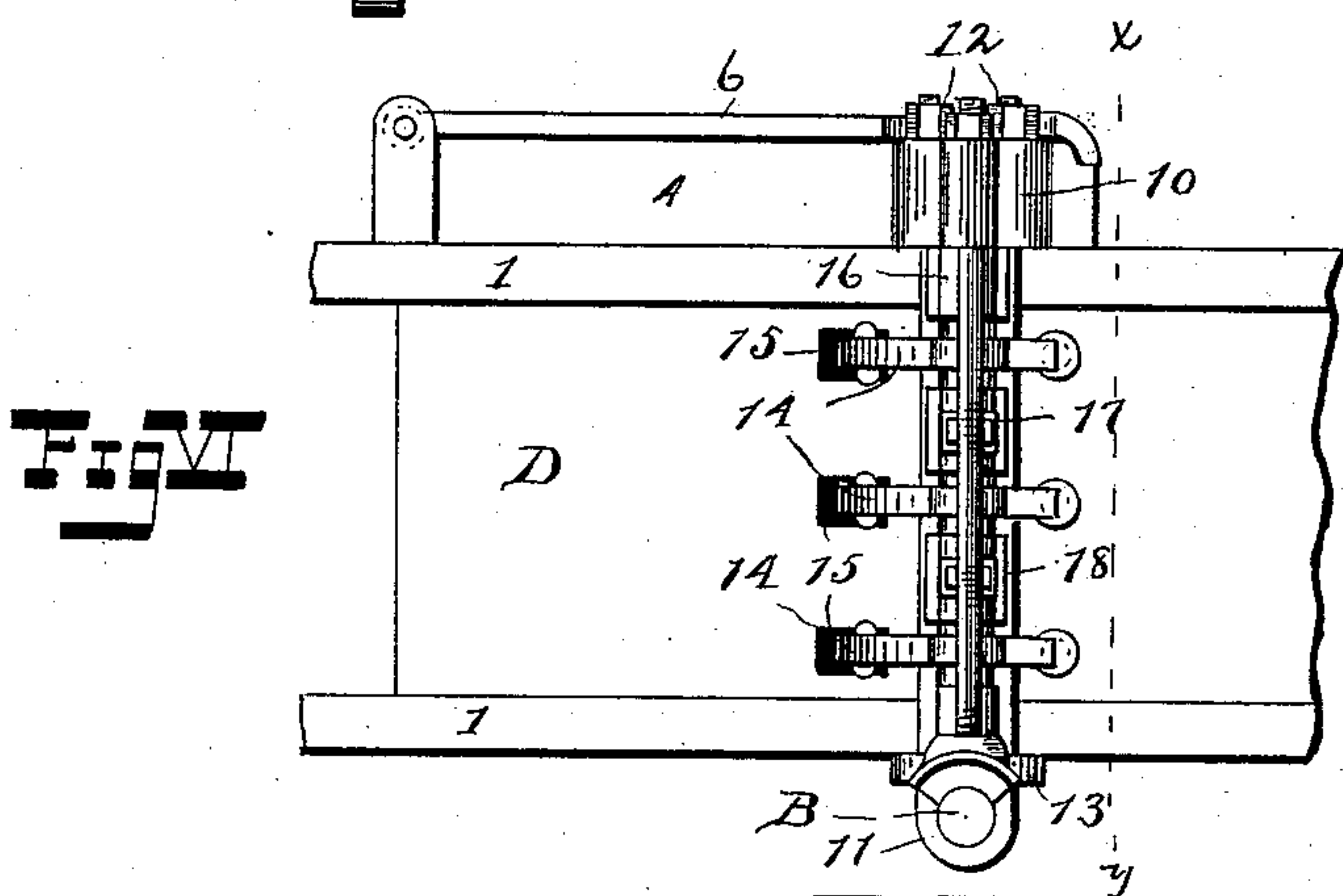
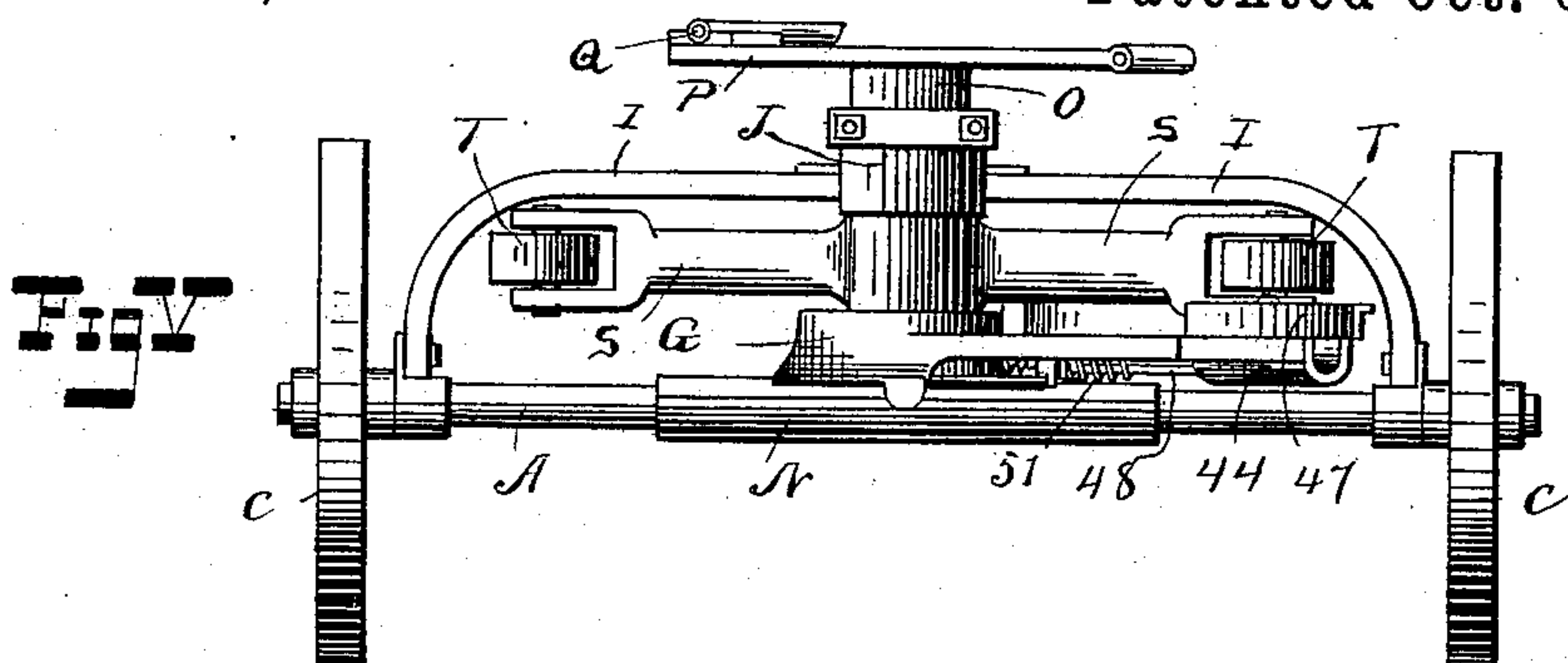
(No Model.)

2 Sheets—Sheet 2.

J. R. GRIFFITH.
BALING PRESS.

No. 568,846.

Patented Oct. 6, 1896.



Inventor.

Witnesses.
J. R. Griffith.
William Smith.

J. R. Griffith.
By House and Hadley, His Attorneys.

UNITED STATES PATENT OFFICE.

JACOB R. GRIFFITH, OF KANSAS CITY, MISSOURI.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 568,846, dated October 6, 1896.

Application filed August 20, 1895. Serial No. 559,936. (No model.)

To all whom it may concern:

Be it known that I, JACOB R. GRIFFITH, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in hay-presses.

It relates more particularly to the class of hay-presses in which the exit end of the baling-chamber is contractible. It relates, further, to the class of hay-presses in which a rebounding pitman, connected to a follower operating in the baling-chamber, is reciprocated by means of a double-armed lever revolved by suitable power, in combination with a spring tension operating upon the pitman.

The object of my invention is to provide a novel and efficient mechanism for contracting or expanding the exit end of the baling-chamber; to provide a simple and effective "tucker" connected with the baling-chamber, comprising an apron pivoted within the baling-chamber and a pivoted platform mounted upon the baling-chamber and so connected with the said apron as to depress the free end of the apron when the follower has been withdrawn for a charge to be placed in the baling-chamber; to provide a novel retaining mechanism combined with bracing for the baling-chamber; to provide an improved bed-plate having fixed guides for guiding the vibratory end of the pitman, together with means connected with the bed-plate for locking the pitman at the end of its stroke and means for checking the rebound of the pitman after each compression, and to provide certain new and improved features of construction and combination of parts hereinafter fully set forth and claimed.

In the drawings herewith furnished and illustrating my invention, Figure 1 represents a side elevation view of a hay-press provided with devices constructed in accordance with the principles of my invention. Fig. 2 represents a plan view of the same. Fig. 3 represents a plan view of the bed-plate and the forward end of the pitman, together with the double-armed lever which operates the pitman. In this view the pit-

man is shown in its locked position with one of the arms of the operating-lever about to engage the cam on the pitman-head. In this view the normal position of the spring-actuated roller for checking the rebound of the pitman is shown in dotted lines. Fig. 4 represents a longitudinal vertical sectional view of the tucker and a portion of the baling-chamber. In this view the position of the parts of the tucker during compression of the hay is shown in dotted lines. The solid lines represent the position of the parts after the follower has been withdrawn. Fig. 5 represents a front elevation of the hay-press with the remote parts removed for greater clearness. Fig. 6 represents an elevation view of the retaining mechanism, bracing mechanism, tool-box and tucker, and a portion of the baling-chamber. Fig. 7 represents a vertical sectional view taken on the dotted line *xy* of Fig. 6, the right-hand side of the baling-chamber and tool-box being broken away. Fig. 8 represents a side elevation of the bed-plate, a portion being shown broken away, so as to show the construction of the checking mechanism. Fig. 9 represents a plan view of one of the retaining-levers, the U-shaped bracing-rod and the side of the baling-chamber being shown in section. Fig. 10 represents a perspective view of the plate. Fig. 11 represents a rear view of the baling-chamber and tension mechanism, the extreme ends of the sides of the baling-chamber being cut away. Fig. 12 represents a side elevation view of one of the retaining-levers. Fig. 13 represents a broken-away portion of the right end of the bed-plate in elevation and section and the spring checking mechanism in elevation. Fig. 14 represents a perspective view of the plate.

Similar letters and numerals of reference indicate similar parts throughout the several views.

A indicates the forward axle, B the rear axle, and C the wheels, upon which the press is supported.

D indicates the baling-chamber.

E indicates the pitman, to the rear end of which is secured a follower or head-block F.

G indicates a horizontal bed-plate connected at its rear end by means of the two tubes H, forming a reach to the forward end of the baling-chamber.

I indicates an arched two-part frame connecting the ends of the front axle and provided in the center with a collar J, secured to the inner ends of the two parts of the arch I.

5 A rod K is secured at its front end to a U-shaped bolt L, that embraces the collar J, and at its rear end to a U-shaped strap M, the ends of which are secured to the sides of the baling-chamber. Secured upon the front

10 axle is a casting N, to which the forward end of the base-plate G is pivotally connected and which serves as a fifth-wheel for the press. A vertical shaft O has its lower end pivoted in the bed-plate and its upper end pivoted in

15 the collar J.

To the upper end of the shaft O is secured a cross-head P, to one end of which is secured the rear end of a tongue Q and to the opposite end of which is secured the rear end of

20 a brace-rod R, the forward end of which is secured to the forward end of the tongue. Secured to the shaft O, between the arch I and the bed-plate G, is a horizontal double-armed lever S, the ends of which are provided

25 with friction-rollers T, adapted when the shaft O is revolved to operate against a head-block secured at the forward end of the pitman, as indicated by U.

V indicates a hopper upon the top of the

30 baling-chamber, through which the hay is fed to the baling-chamber.

I indicates the upper and lower frames of the baling-chamber, consisting of an angle-iron at each corner of the baling-chamber.

35 2 and 3 indicate, respectively, the upper and lower plates of the baling-chamber. These plates are narrower than the inner width of the baling-chamber, so as to admit of the rear end of the baling-chamber being contracted

40 by the tension mechanism.

Secured upon the upper side of the baling-chamber to the rear of the hopper is a cast tool-box 4, which is provided with a transverse partition 5. To the rear side of the tool-

45 box is pivoted a cover 6, which serves also as a platform for the man who is feeding the baling-chamber and as an operating-lever for depressing the apron 7, which is an obliquely-inclined plate, the forward upper end of which

50 is pivoted in the baling-chamber just below the forward edge of the tool-box. A lug 8, upon the forward edge of the apron 7, is adapted to strike against the lower side of the tool-box and prevents the apron from dropping too low at its rear end. A plate 9 is

55 fitted between the apron 7 and the cover 6, the upper and lower edges resting, respectively, in transverse grooves, one in the lower side of the cover and the other in the upper side

60 of the apron. A slot extending transversely across the bottom of the tool-box permits movement therethrough of the plate 9 when the tucker is operated.

Each side of the tool-box at or near its forward end is provided with a projection 10, which is provided with two vertical openings, through which extend the two arms of a U-

shaped strap 11, the lower end of which embraces the rear axle and the two upper ends being provided with screw-threads, to which

70 are fitted the nuts 12. Between the lower angle-irons 1 and the rear axle on each side of the baling-chamber is a casting 13, which is provided with two vertical openings, through which pass the arms of the strap or

75 stirrup 11. Upon each side of the baling-chamber are located three retaining-levers 14, the rear inwardly-curved ends of which extend through openings 15 in the side of the baling-chamber. The retaining-levers 14 are

80 disposed one above the other on each side of the baling-chamber, the upper lever being pivoted between a casting 16, located below the projection 10 of the tool-box, and a casting 17, located below the lever 14. The mid-

85 dle lever is pivoted between the casting 17 and a similar casting 18. The lower lever is pivoted between the casting 18 and the casting 13. The upper and lower side of each retaining-lever is provided with a vertical

90 projection 19, cylindrical in form, which enters a vertical opening in the adjacent casting. Each side of the castings 17, 16, and 18 is provided with a vertical groove, (indicated by 20,) in which lie the arms of the strap 11.

95

The forward end of each of the retaining arms or levers 14 is provided with a vertical disk, from the center of which inwardly extends a cylindrical projection 21, upon which is mounted a coil-spring 22, the outer end of

100 which rests against the disk-shaped end of the retaining-lever and the inner end against the side of the baling-chamber. The tension of these coil-springs is such as to normally keep the opposite end of the retaining-lever

105 within the baling-chamber and thus preventing the hay from expanding after compression. Each of the castings 17 and 18 is provided with a horizontal outwardly-extending

110 projection 23, the outer end of which is grooved vertically. A vertical rod 24, secured at its lower end to the casting 13 and at its upper end to the projection 10, is bent outwardly, so as to lie in the grooves in the outer ends of the projections 23.

115

I will now describe the mechanism for contracting the exit end of the baling-chamber.

Referring to Figs. 1, 2, and 11, 25 indicates two horizontal plates, one above and one located below the baling-chamber and extending

120 transversely across it. A vertical rod 26 has its upper and its lower ends pivoted in vertical openings in the castings 27 and 28, which are secured, respectively, to the upper and the lower angle-irons 1 on one side of the

125 baling-chamber. The plates 25 are secured one at each end of the vertical rod 26. The free ends of the plates 25 are pivotally connected to the ends, respectively, of a vertical bar 29, located upon the side of the baling-

130 chamber opposite to the rod 26. Revolvable upon the bar 29, one below the upper plate 25 and the other above the lower plate 25, are two friction-rollers 30.

Forward of the bar 29 and farther removed from the baling-chamber is a vertical bar 31, the ends of which are pivoted in vertical openings of two brackets 32, which are secured to the side of the baling-chamber, one to the upper angle-iron 1 and one to the lower angle-iron. Each bracket 32 is provided with a convex-faced cam at its outer edge, over which the roller 30 is adapted to travel when the plates 25 are swung on their pivoted support. A horizontal rod 33 is secured at its rearend to the bar 29 and passes from thence through a horizontal opening in an enlarged central part of the bar 31. The forward end of the rod 33 is screw-threaded and has fitted to its screw-threaded end a hand-wheel 34. Mounted upon the rod 33, between the hand-wheel 34 and the bar 31, is a stiff coil-spring 35. By revolving the hand-wheel 34 in the proper direction the rollers 30 are made to travel over the cam-surface of the brackets 32, thus drawing the sides of the baling-chamber closer together or forcing them apart, depending on whether the plates 25 are moved forward or backward.

The following is a description of the guiding mechanism for the vibratory end of the pitman:

The head-block U is a cylindrical-formed casting provided with a longitudinal opening, into which the forward end of the pitman is movably fitted. To the under side of the head-block U is revolubly secured a friction-roller 36, adapted to travel between the guiding-flanges 37, 38, and 39 upon the upper face of the bed-plate G. Upon the left side of the head-block is a beveled cam 40, adapted to receive the impact of the rollers T, upon the double-armed lever S, when the pitman is in the position shown in Fig. 3. To the extreme front end of the head-block U is vertically dovetailed thereto a hardened casting 41, the front end of which is curved so as to be adapted to receive the rollers T. The head-block U is held on the pitman by means of a rod 42, the forward end of which is secured to the head-block and the rear end of which passes around a horizontal plank 43, which lies against and parallel to the pitman, to the rearward portion of the pitman to which it is secured.

The flange-guide 37 is located upon the right-hand side of the bed-plate G as viewed from the front of the machine, and is curved forwardly and to the right until a point near the front end of the bed-plate is reached, at which point it curves toward the left. The guiding-flange 38 is located at the rear end of the bed-plate and lies parallel to the flange-guide 37. The flange-guide 39 is located at the forward end of the bed-plate and has a portion of its length parallel to the curved forward end of the guide 37, and at its extreme forward end is provided with a concaved front side adapted to receive and hold the roller 36 when the pitman is in the position illustrated in Fig. 3.

The forward end of the bed-plate on its under side is provided with a semicylindrical projection 44, which lies in a vertical plane that is obliquely inclined to the longitudinal center of the pitman when the pitman is in the rearward position, as shown in Figs. 1 and 2. The semicylindrical projection 44 is grooved for a portion of its length from the front end in order to permit the movement therein of a right-angled bar 45, the vertical leg of which is adapted to slide in a slot cut vertically through the bed-plate and joining the opening in the projection 44. The said slot is indicated by 46.

To the vertical leg of the right-angled bar 45, at its upper end, is pivoted a horizontal roller 47, the under side of which moves along the upper side of the bed-plate. The spring-actuated roller 47 serves not only as a buffer for the free end of the pitman at the forward end of its stroke, but also forces the roller 36 into the seat in the front end of the flange 39, and thus serves as a locking device for holding the free end of the pitman in the said seat.

Secured within a longitudinal opening in the horizontal leg of the angle-bar 45 is a horizontal rod 48, which extends rearwardly and to the right and passes through an opening, to which it is movably fitted in the rear end of the projection 44. At the rear end of the rod 48 is secured the forward end of a coil-spring 49, the rear end of which is secured to a projection 50 on the under side of the bed-plate G. Mounted upon the rod 48, to the rear of the projection 44, is a coil-spring 51, the rear end of which rests against a plate 52, secured upon the rod 48 near its rear end. When the rod 48 is in the rear position, (shown in Fig. 13,) the coil-spring 51 does not bear upon the rear end of the projection 44, and it does not operate until the roller is forced forward by the striking against the roller 47 of the roller 36, that is secured to the under side of the head-block U. At such a time it relieves the strain upon the relatively light spring 49 and prevents the pitman from moving too far forward, and, in connection with the spring 49, forces the roller on the head-block U into the concaved front end of the guide 39. In order to assist the hay in forcing the pitman to its forward position, a coil-spring 53 has its forward end secured to a clip 54, which is secured to the connecting-rod K near its forward end, the rear end of the said spring being secured to the plank 43.

My invention is operated as follows: The shaft O is made to revolve by means of power applied to the tongue Q, thus revolving the double-armed lever S, which in revolving forces the forward end of the pitman to the right through the intermediacy of the rollers T coming in contact with the cam 40 on the head-block U at the front end of the pitman. After the roller 36 has passed to the right and out of the concaved front end of the guide 39 the tension of the springs 49 and 51, oper-

ating the angle-bar 45, forces the roller 47 rearwardly, and this in turn forces the pitman rearwardly by pushing against the roller 36 on the head-block U. In the meantime the roller T runs along the inclined surface of the cam 40 and finally into the concaved front of the chilled casting 41, at which time the power of the lever S is applied against the pitman, forcing it rearwardly, the roller 36 following the guide-flange 37 and causing the pitman to assume the position shown in Figs. 1 and 2. When the pitman has reached the limit of its backward movement, the roller T is disengaged and the pitman springs forward, due both to the tension of the hay that was compressed during the rearward movement of the pitman and to the tension of the spring 53. During the time that the pitman and follower are in the forward position the man standing on the platform 6 fills the forward part of the baling-chamber with hay through the hopper V. The rearward movement of the follower forces the hay backward into the rear portion of the baling-chamber, past the retaining-arms 14, which are forced outward at their inwardly-projecting ends. As soon as the follower on the pitman recedes the retaining-levers 14 spring into the chamber and prevent the hay that has been compressed from springing past them. At the same time the weight of the man who is feeding and standing on the platform 6, which was raised at its free end, due to the hay pressing against the swinging apron 7, causes the raised end of the platform to lower, and through the intermediacy of the plate 9 forcing the apron downward at its free end, and thus tucking down the hay under the apron that otherwise would give the bale a ragged appearance. In case it is desired to make the bales more solid, the hand-wheel is turned in a direction such as will force the rod 33 forward, and thus drawing the rollers 30 forward up the inclined face of the brackets 32 and drawing the two sides of the chamber toward each other through the intervention of the plates 25. The spring 35 is provided on the rod 33 in order to give a certain amount of elasticity to the compressible end of the baling-chamber. After the roller T on the lever S has released the pitman it springs forward, the roller 36 following the guide-flanges 37, 38, and 39. At the forward end of the bed-plate the roller 36 strikes against the roller 47, which is forced outward against the tension of the spring 49 until the compression-spring 51 comes in contact with the rear end of the projection 44, relieving the spring 49 and causing the pitman-roller 36 to slide into the concaved face of the guide 39, in which position it rests until the lever S, in revolving, brings one of the rollers T in contact with the cam 40, at which time the forward end of the pitman is forced to the right as viewed from the front, as hereinbefore described.

Various departures in construction may be

made from what I have described while still remaining within the scope of my invention. For instance, the shaft O, the lever S, and the cross-head P may be cast in one piece, if found desirable. The conformation of the guides and the manner of applying them to the bed-plate may be varied to suit convenience or pleasure, and other modifications may be made without departing from the spirit of my invention.

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

1. In a baling-press, the combination with a baling-chamber, of a follower operating therein, a pitman connected with the follower, means for operating the pitman, a bed-plate provided with suitable guides for the free end of the pitman, and a spring-retracted roller obliquely movable upon the bed-plate and adapted to receive the impact of the pitman near the end of its forward stroke, substantially as described.
2. In a baling-press, the combination with a baling-chamber, of a follower operating therein, a pitman connected with the follower, means for operating the pitman, a bed-plate provided with suitable guides for the free end of the pitman, a rigid seat in the bed-plate adapted to receive the free end of the pitman at the forward end of its stroke, and a locking device for holding the pitman in the said seat, substantially as described.
3. In a baling-press, the combination with a baling-chamber, of a follower operating therein, a pitman connected with the follower, means for operating the pitman, a bed-plate provided with suitable guides for the free end of the pitman, a seat in the bed-plate adapted to receive the free end of the pitman at the forward end of its stroke, and a spring-actuated locking device for holding the pitman in the said seat, substantially as described.
4. In a baling-press, the combination with a baling-chamber, of a follower operating therein, a pitman connected with the follower, means for operating the pitman, a bed-plate provided with suitable guides for the free end of the pitman, a seat in the bed-plate adapted to receive the free end of the pitman at the forward end of its stroke, and a spring-retracted roller movable upon the bed-plate and adapted to receive the impact of the pitman after each compression and force it into the said seat, substantially as described.
5. In a baling-press, the combination with a baling-chamber, of a follower operating therein, a pitman connected with the follower, means for operating the pitman, a bed-plate provided with suitable guides for the free end of the pitman, one of the guides being so formed as to form a seat for the free end of the pitman at the forward end of its stroke, and a friction-roller movable upon the bed-plate and provided with a spring-actuated mechanism by which the roller forces the free

end of the pitman along the guide and into the said seat at the forward end of the stroke of the pitman, substantially as described.

6. In a baling-press, the combination with a pitman, of a bed-plate provided with suitable guides, for one end of the pitman, means for operating the pitman, a seat at the forward end of the bed-plate adapted to receive the free end of the pitman, and a spring-actuated mechanism on the bed-plate for forcing the pitman into the said seat, substantially as described.

7. In a baling-press, the combination with a reciprocating pitman, of means for reciprocating the pitman, a bed-plate provided with rigid guides within which the pitman reciprocates, a spring-retracted roller in the path of the pitman, a seat in one of the rigid guides adapted to receive the pitman at the end of a reciprocation, and means by which the spring-retracted roller forces the pitman into its seat and imparts to the pitman an initial impetus on its rearward reciprocation, substantially as described.

8. In a baling-press, the combination with a baling-chamber, of a follower operating therein, a pitman connected with the follower, means for operating the pitman, a friction-roller revoluble upon the free end of the pitman, a bed-plate provided with guides within which the pitman-roller reciprocates, a spring-retracted roller movable upon the bed-plate and located in the path of the pitman-roller and adapted to receive the impact of the pitman-roller at the end of a reciprocation, substantially as described.

9. In a baling-press, the combination with a baling-chamber provided with a contractible exit end, of two arms pivoted to one side of the baling-chamber, one above and one below the same and extending transversely across the said chamber, a rod connecting the opposite ends of the two arms and provided with two friction-rollers, two brackets provided with outwardly-inclined faces over which the friction-rollers are adapted to travel and means for holding the said rollers upon the inclined faces at any point desired, substantially as described.

10. In a baling-press, the combination with a baling-chamber, of two arms pivoted to one side of the baling-chamber, one above and one below the same and extending transversely across the said chamber, a rod connected at its ends to the two arms and being provided with two friction-rollers, two brackets secured to the baling-chamber and provided with outwardly-inclined faces over which the two rollers are adapted to travel, a rod secured perpendicularly to the first rod, a rod vertically pivoted between the two brackets and provided with an opening through which the horizontal rod freely passes, and means for moving the horizontal rod through the said opening and locking it in any desired position, substantially as described.

11. In a baling-press, the combination with

a baling-chamber provided with a contractible exit end, of the arms, 25, pivotally secured to one side of the baling-chamber, the vertical rod, 29, the horizontal rod, 33, the brackets, 32, secured to the opposite side of the baling-chamber and provided with outwardly-inclined faces, friction-rollers on the rod, 29, adapted to travel over the inclined faces, the vertical rod, 31, pivoted between the brackets and provided with a horizontal opening in which the rod, 33, is movably fitted, and a yielding locking device for holding the rod, 33, in any desired position within the opening in the rod, 31, substantially as described.

12. In a baling-press, the combination with a baling-chamber having a contractible exit end, of the plates or arms, 25, pivoted to one side of the baling-chamber, one above and one below, the brackets, 32 secured to the opposite side of the chamber and provided with outwardly-inclined faces, a vertical rod, 29, connecting the arms, 25, and having a friction-roller adapted to travel over the said inclined faces, a horizontal rod, 33, secured at one end to the rod, 29, and having its other end screw-threaded, a vertical rod, 31, pivoted at its ends between the brackets, 32, and provided with a horizontal opening through which the rod, 33, freely passes, a hand-wheel fitted to the screw-threaded end of the rod, 33, and a spring tension between the hand-wheel and the rod, 31, substantially as described.

13. In a baling-press, the combination with a baling-chamber, of a transverse plate pivoted at or near one edge to the baling-chamber and normally inclining rearwardly, a platform or plate hinged to the upper side of the baling-chamber and above the transverse inclined plate, and a transverse plate the lower edge of which rests upon the upper side of the inclined plate and against the under side of the upper plate or platform, substantially as described.

14. In a baling-press, the combination with a baling-chamber, of the rearwardly-inclined plate, 7, hinged to the under side of the upper side of the chamber, a plate, 6, hinged to the upper side of the upper side of the chamber and above the first plate, and a transverse plate, 9, extending through the top of the baling-chamber and connecting the upper and lower hinged plates, substantially as described.

15. In a baling-press, the combination with a baling-chamber, of the rearwardly-inclined plate, 7, provided with means for limiting its downward movement, and having a hinged connection with the baling-chamber on the under side of the top side of the chamber, a platform, 6, located above the plate, 7, and hinged to the top side of the upper side of the baling-chamber, a transverse plate, 9, extending through the upper side of the baling-chamber and connecting the plates, 6, and 7, whereby when the lower plate is moved to a horizontal position the upper plate is raised, substantially as described.

16. In a baling-press, the combination with the baling-chamber, of the box, 4, secured to the upper side thereof, and provided with the hinged lid, 6, a plate, 7, rearwardly inclined and extending transversely across the inside of the baling-chamber and hinged therein at or near the front edge of the box, 4, and a plate, 9, connecting the lid of the box and the under plate, 7, substantially as described.

17. In a baling-press, the combination with a baling-chamber, of the casting, 4, secured to the upper side of the baling-chamber, the rear axle extending transversely across and under the baling-chamber, a U-shaped bolt or stirrup passing around the axle at each side of the baling-chamber and secured at its upper end to the sides of the casting, 4, the casting, 13 provided with openings through which the bolt passes and located between the baling-chamber and the axle, the castings, 16, 17, and 18 provided with the grooves, 20, in which lie the two arms of the bolt or stirrup, and the spring-actuated retaining-arms, 14, one end of each of which passes through the side of the baling-chamber, the said retaining-arms being pivoted respectively between the castings, 16, 17, 18, and 13, substantially as described.

18. In a baling-press, the combination with a baling-chamber, of a pitman provided with the cam, 40 at its free end and a follower that operates in the baling-chamber at its other end, a friction-roller pivoted to the free end of the pitman, a bed-plate provided with the guide-flanges, 37, 38, and 39, between which the said friction-roller is movable, the spring-retracted roller, 47, movably secured to the forward end of the bed-plate in the path of the roller aforesaid, and toward the guide-flange, 39, and a vertical power-shaft pivoted to the bed-plate and provided with the double-armed lever, S, having the friction-rollers, T, adapted to engage the cam, 40, substantially as described.

19. In a baling-press, the combination with a baling-chamber, of a plate on top of the baling-chamber, the rear axle extending transversely across and under the baling-chamber, a stirrup upon each side of the baling-chamber engaging the axle at its lower end and at its top end secured to the top plate, a series of plates located between the arms of the stirrups, and a series of retaining-arms alternating between and pivotally engaging the series of plates, each of said arms having one end extending through the baling-chamber, substantially as described.

20. In a baling-press, the combination with a baling-chamber, of a plate on top of the baling-chamber, the rear axle extending transversely across and under the baling-chamber, a stirrup upon each side of the baling-chamber engaging the axle at its lower end and secured at its top end to the top plate, a series of plates located between the arms of the stirrups, each of said plates being provided with

a recess in its upper and lower side, and a series of retaining-arms alternating between the said series of plates, the upper and lower side of each retaining-arm being provided with a projection adapted to the adjacent recess in the contiguous plate of the said series of plates, and each retaining-arm having one end extending through the baling-chamber, substantially as described.

21. In a baling-press, the combination with a baling-chamber, of a plate on top of the baling-chamber, the rear axle extending transversely across and under the baling-chamber, a stirrup upon each side of the baling-chamber engaging the axle at its lower end and secured at its top end to the top plate, a series of plates located between the arms of the stirrups and between the top plate and the axle, one or more of the said plates being provided with an outwardly-extending projection, a rod secured at its lower end to the lowest plate of the series and at its upper end to the top plate and passing over the outer end of the said projection, and a series of retaining-arms alternating between the series of plates and pivotally supported between the said plates, the said arms each having one end extending through the baling-chamber, substantially as described.

22. In a baling-press, the combination with a baling-chamber, of means for forcing the material to be baled rearwardly therein, a transverse plate or apron pivotally supported at one edge within the baling-chamber and adapted to have its free edge swung rearwardly by the baling material, a plate or platform hinged to the top of the baling-chamber, and means by which the free edge of the apron is forced forwardly when the platform is swung in the proper direction, substantially as described.

23. In a baling-press the combination with the baling-chamber, of a transverse plate or apron pivotally supported at one edge within the baling-chamber and having its opposite edge free to swing rearwardly, a plate or platform hinged to the top of the baling-chamber, and a plate connecting the two hinged plates at one side of their hinged portions, whereby the apron is swung upon its hinged connection when the platform is swung in the proper direction, substantially as described.

24. In a baling-press, the combination with the baling-chamber, of the apron, 7, hinged at one edge to and within the baling-chamber, the platform, 6, hinged to the top of the baling-chamber, and the connecting-plate, 9, located between the apron and the platform, substantially as described.

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

JACOB R. GRIFFITH.

Witnesses:

W. J. SMITH,
WARREN D. HOUSE.