No. 871,991. PATENTED NOV. 26, 1907.

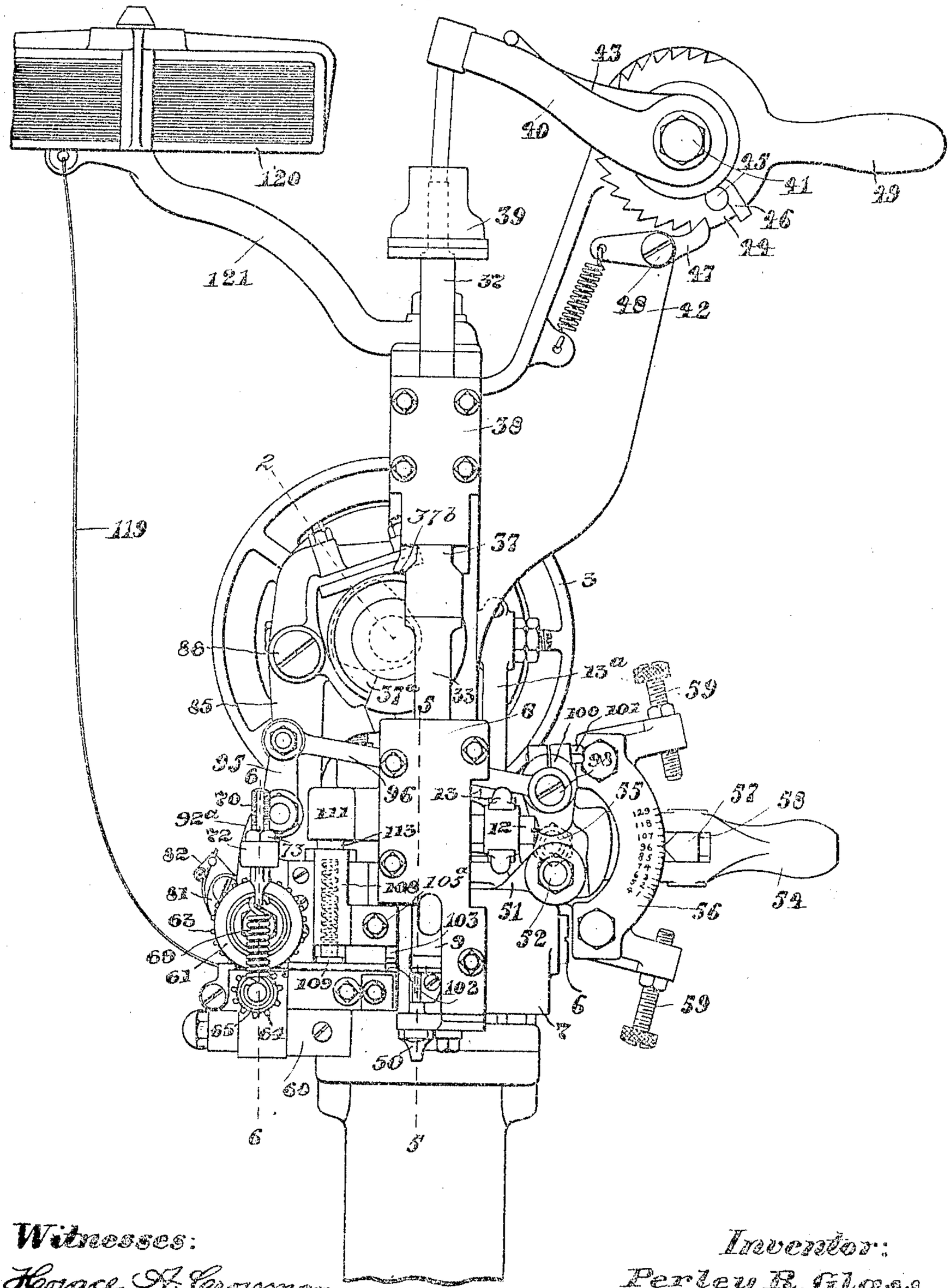
P. R. GLASS.

STAPLE TACKER.

APPLICATION FILED MAY 6, 1905.

8 SHEETS—SHEET 1.

Fig. 1.



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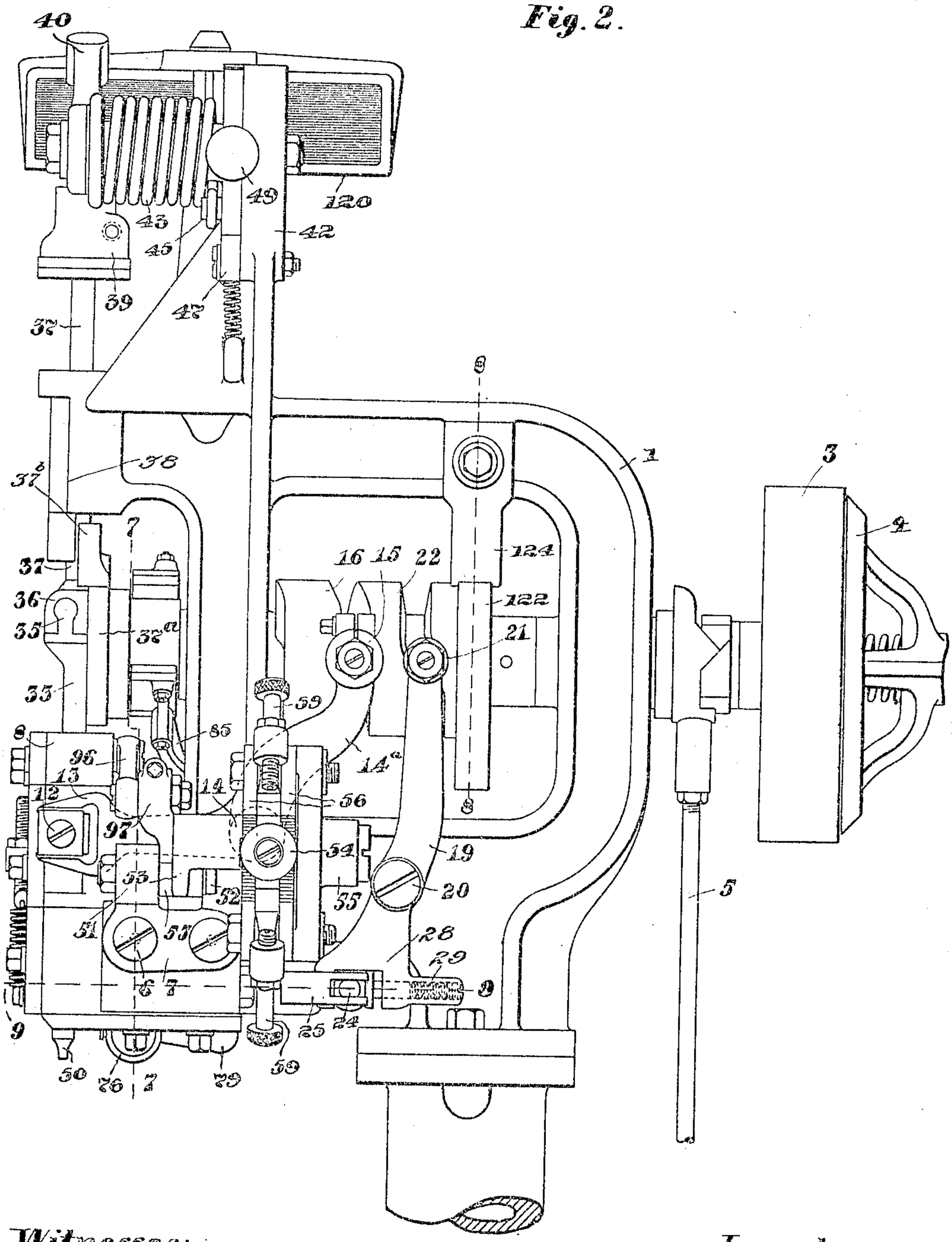
8 SHEETS—SHEET 2

Fig. 2.



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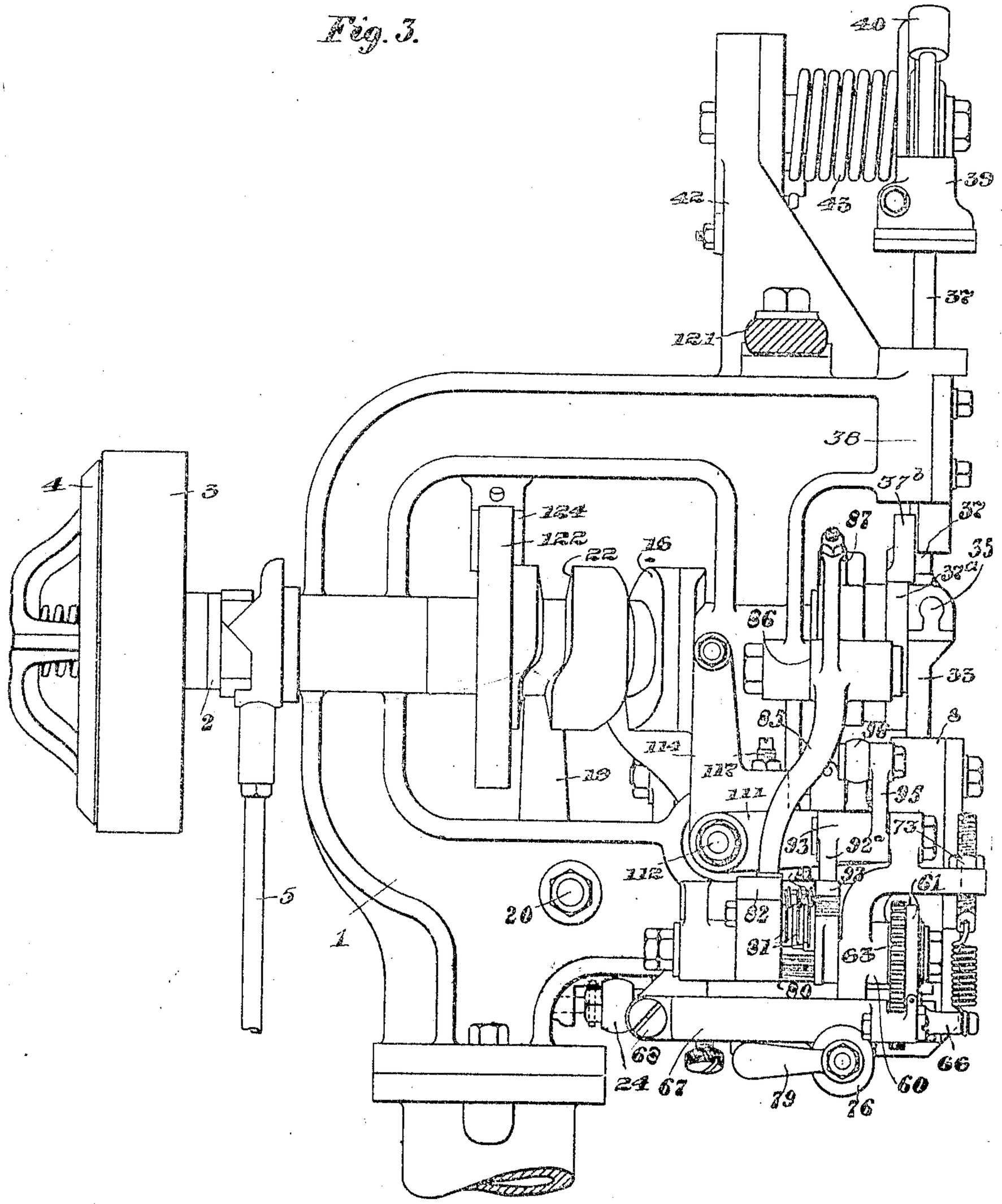
8 SHEETS—SHEET 3.

Fig. 3.



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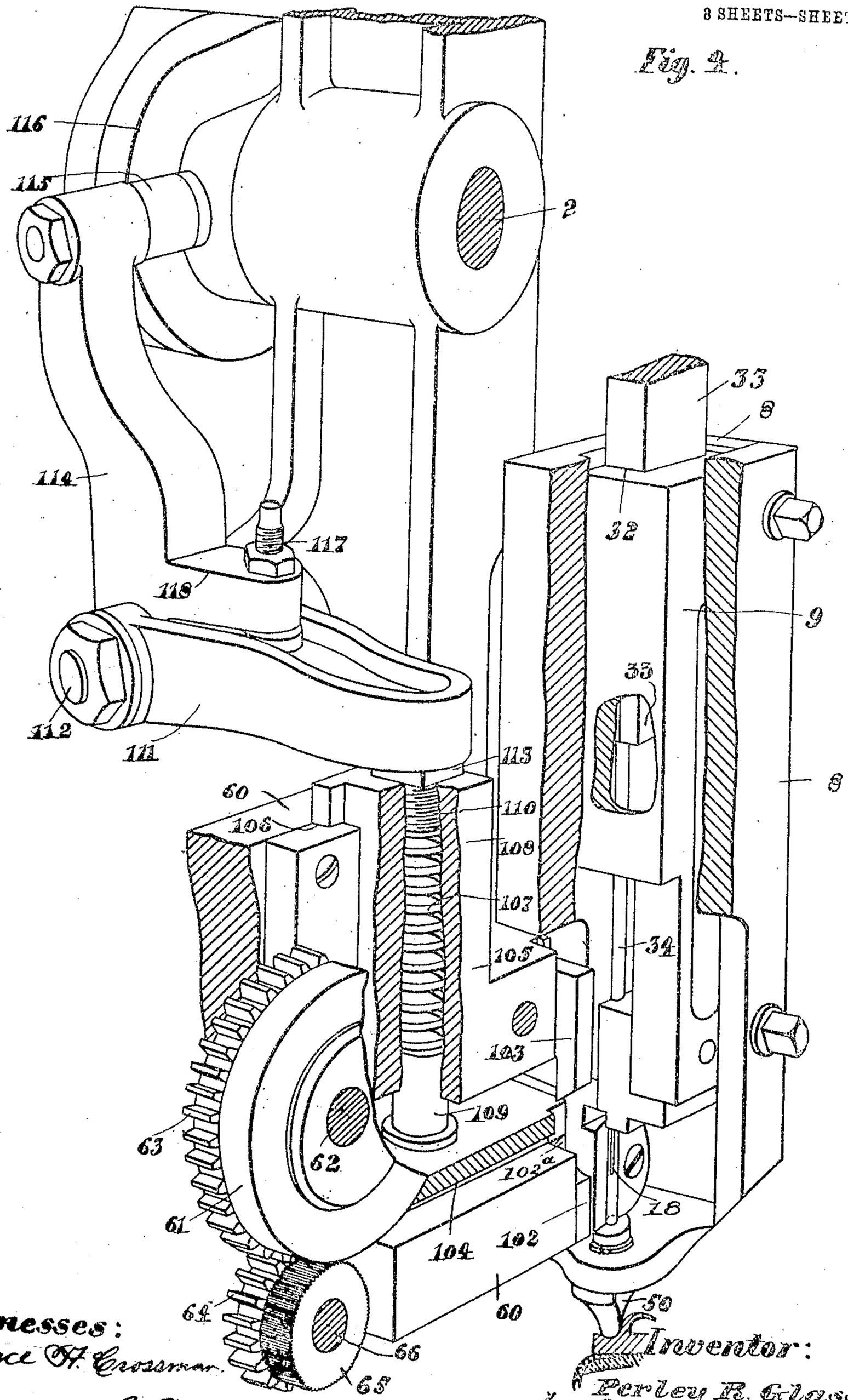
8 SHEETS—SHEET 4.

Fig. 4.



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8 SHEETS—SHEET 5.

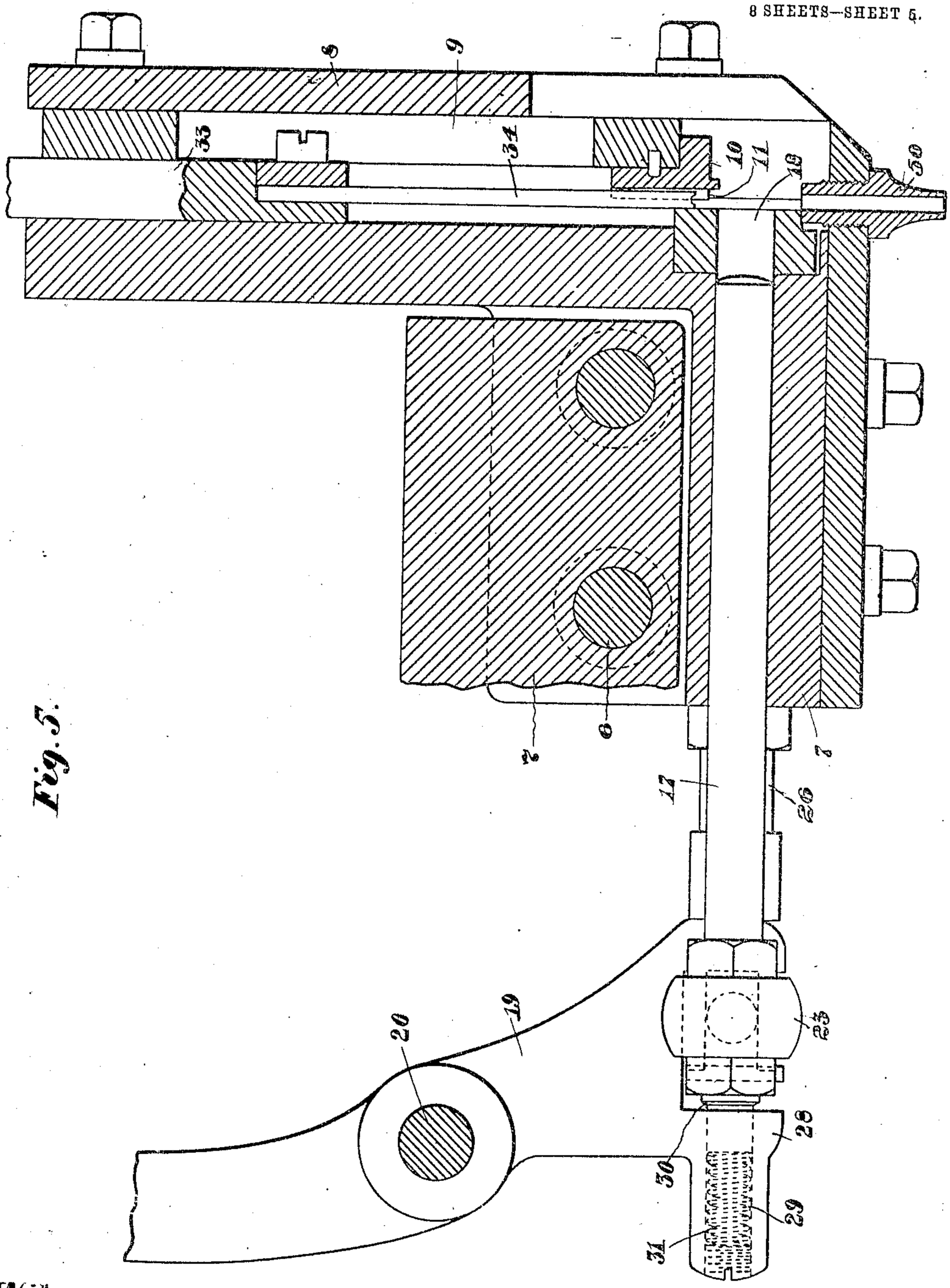

Fig. 5.

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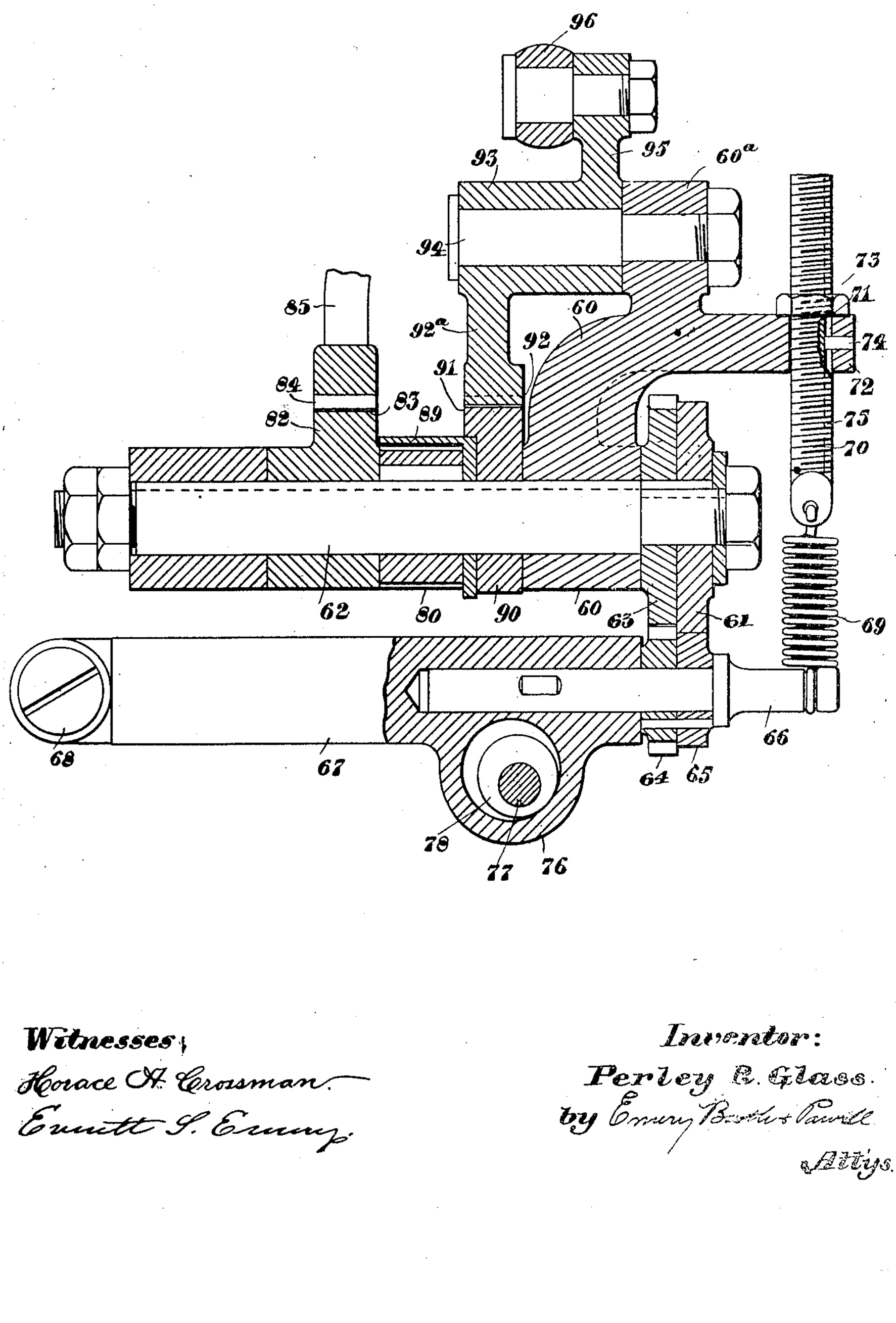
8 SHEETS—SHEET 6.

Fig. 6.



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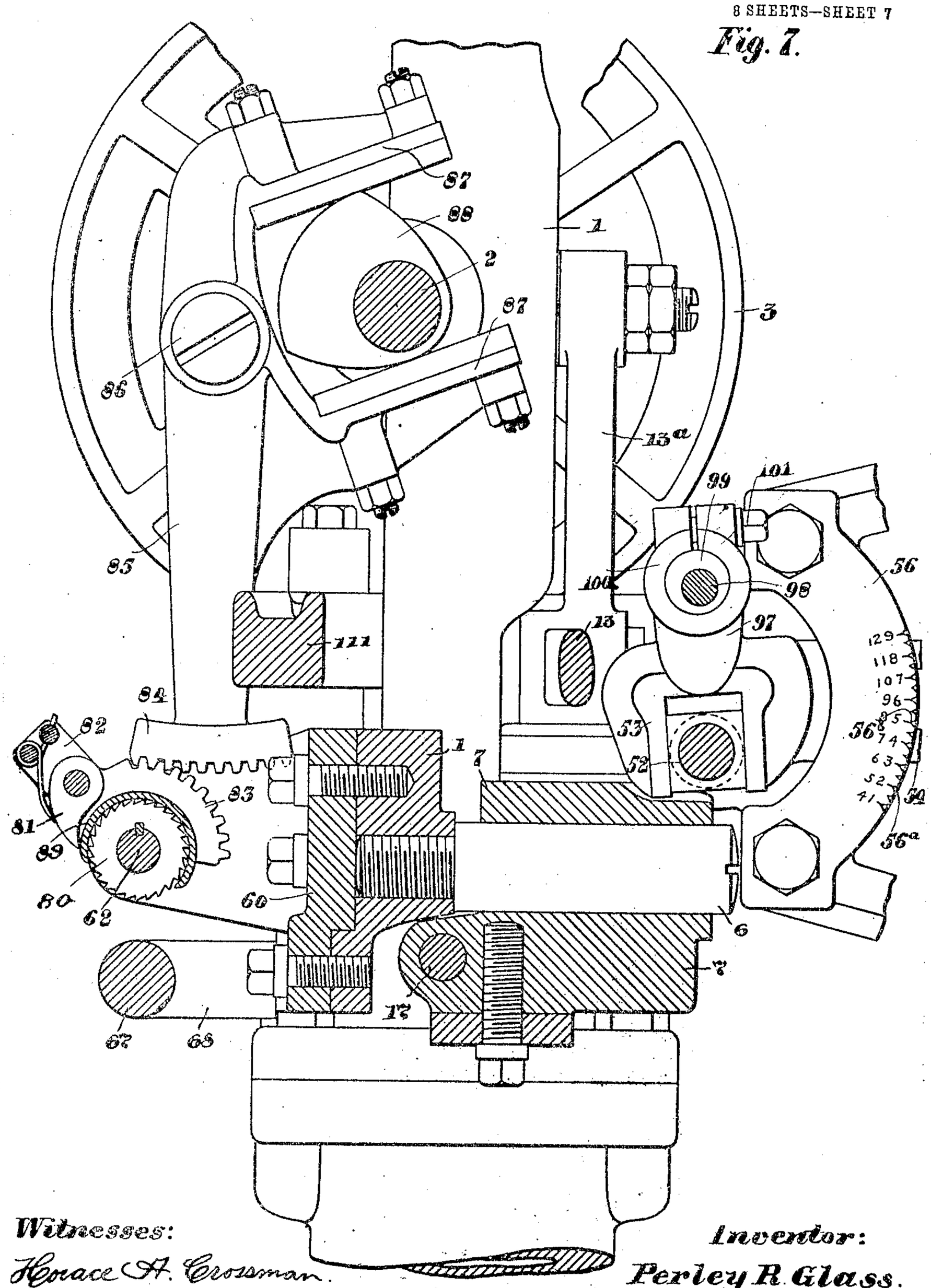
APPLICATION FILED MAY 6, 1905.

8 SHEETS—SHEET 7

Fig. 7.



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No. 871,991. PATENTED NOV. 26, 1907

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APPLICATION FILED MAY 6, 1905.

8 SHEETS—SHEET 8.

Fig. 8.

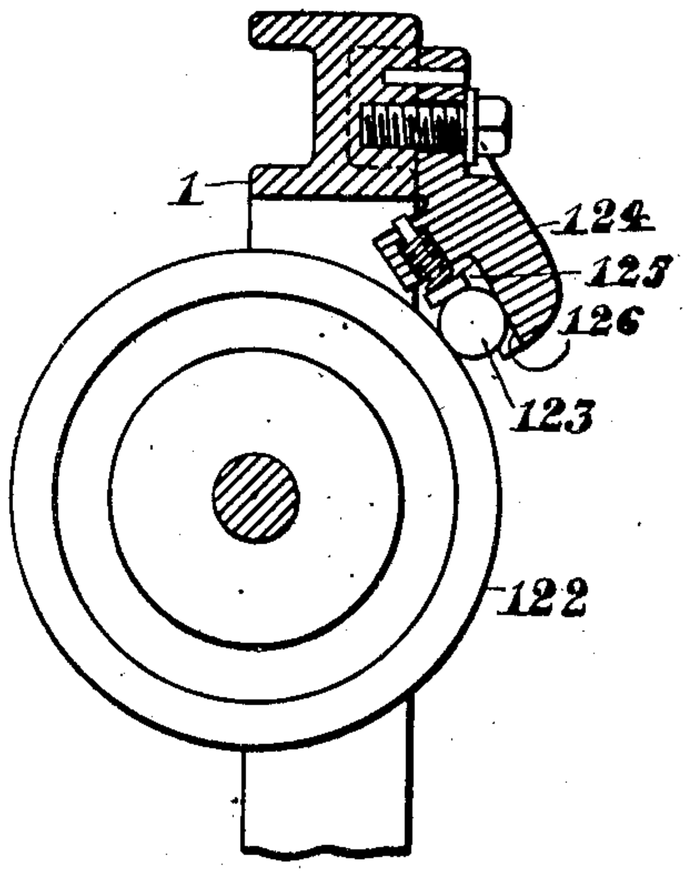
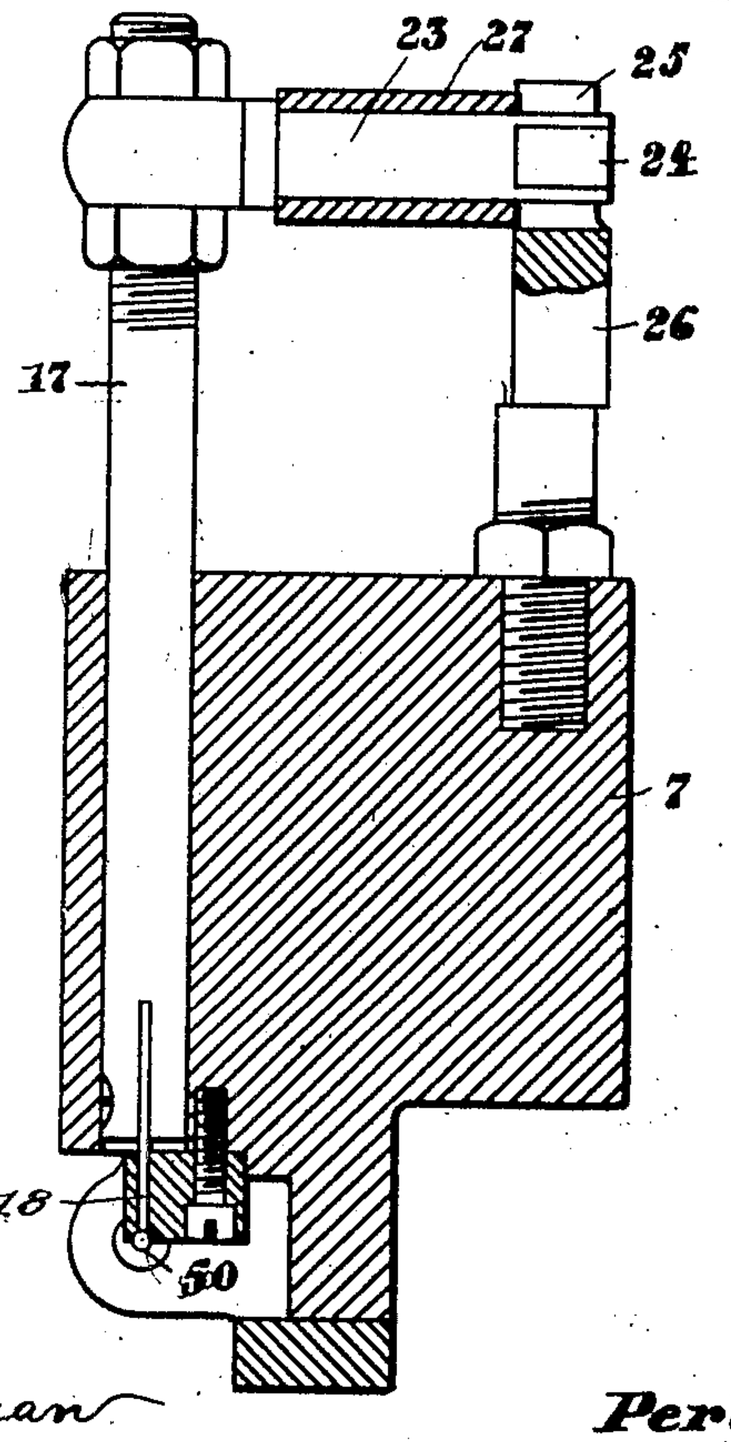


Fig. 9.



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STAPLE-TACKER.

No. 871,991. Specification of Letters Patent. Patented Nov. 26, 1907.

Application filed May 6, 1905. Serial No. 259,140.

To all whom it may concern:

Be it known that I, PERLEY R. GLASS, a citizen of the United States, residing at Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Staple-Tackers, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to machines for forming and driving metallic fasteners, such for instance as wire staples and particularly to such as form the fasteners from a continuous strip of metal or wire.

In staple forming and driving machines at present in common use, the forming and driving mechanism proper comprise an anvil across which the metal strip is fed, a suitable former to form or shape the strip over and upon the anvil and a driver to drive the staple after the anvil has been withdrawn. Suitable strip feeding and cutting mechanism also are provided comprising, usually, a pair of feed wheels and coöperating cutters adjacent thereto, and means is provided for varying the feed of the wire so as to very the lengths or sizes of the staples. If, however, the feeding and cutting devices remained in fixed relationship to the anvil, any variation in the length of feed would merely vary the distance to which the end of the strip would be fed beyond the anvil, consequently that leg of the staple that is formed from the portion of the strip so fed beyond the anvil would alone be varied, and the leg formed from the portion of the strip between the cutting device and the anvil would remain constant. To obviate this, and to insure equality of length of the staple legs, whatever the actual lengths thereof, or if a given inequality is desired, to preserve such inequality whatever the feed of the strip and the resultant actual lengths of the staple legs, it has been customary to adjust the feeding and cutting mechanism or the cutting mechanism alone toward or away from the anvil, simultaneously with and proportionately to any variation in feed of the strip, so that the length of strip fed at any given time would be balanced equally or properly at opposite sides of the anvil and thus preserve the required equality in length of the staple legs. Machines of this description are illustrated in the patent to Hamm 447,681, dated March 3, 1891, and Hamm and Eaton, No. 571,227, November 10, 1896. Such constructions, however, are objectionable as the adjustment of the feeding and cutting devices or either of them, necessitates the employment of more or less complicated connections between these devices and their stationary actuating mechanisms to render them capable of such adjustment.

The aim of my invention is to simplify the construction of machines of this class while preserving all the advantages of adjustment between the forming and driving mechanism and the strip feeding and cutting mechanism, and I accomplish this in part by maintaining the more complicated feeding and cutting devices in fixed position, thus eliminating the objectionable complicated connections above referred to as necessary when said devices are adjustable, the simpler staple forming and driving means being made the adjustable members.

The nature of my invention and other objects and advantages thereof, will be more clearly apparent from a description of one embodiment thereof which has been herein selected for illustration and which is shown in the accompanying drawings, and its scope will be pointed out in the appended claims.

In the drawings,—Figure 1 is a front elevation of a machine embodying my invention; Fig. 2 is a right hand side elevation of Fig. 1; Fig. 3 is a left hand side elevation of Fig. 1; Fig. 4 is a perspective view partly in section of the staple forming and driving mechanism and of the strip feeding and cutting mechanism, the parts being in section; Fig. 5 is a vertical sectional view on the line 5—5 Fig. 1; Fig. 6 is a sectional view on the line 6—6 Fig. 1; Fig. 7 is a sectional view on the line 7—7 Fig. 2; Fig. 8 is a sectional view on the line 8—8 Fig. 2, and Fig. 9 is a sectional view on the line 9—9 Fig. 2.

In the embodiment of my invention herein selected for illustration, the main frame 1 of the machine is provided with bearings for the main driving shaft 2, upon the rear end of which is loosely mounted a driving pulley 3, which may be operatively connected with the driving shaft when desired, by a suitable clutch mechanism 4 operated through a treadle connection 5.

Projecting laterally to the right from the

forward lower portion of the machine frame (Figs. 1 and 2) are the supporting studs 6, upon which is slidably mounted the driver head 7. The driver head is provided on its front face with a guide-way 8, within which is carried the staple forming and driving mechanism proper; said driver head 7 being adjustable laterally as hereinafter described to allow for adjustment of said mechanism toward and from the strip feeding and cutting mechanism. The forming and driving mechanism comprises a vertically reciprocating staple former 9 mounted to slide in the guide-way 8 (see Figs. 1, 4 and 5) and having secured to its lower end a former die 10 provided on its rear face with a staple forming groove 11. For vertical reciprocation the staple former is connected by means of a stud 12, projecting to the right therefrom, with a bell crank lever 13 (Fig. 2) pivoted at 14 upon the frame of the machine and having an upwardly projecting arm 14^a provided with a cam roll 15 for actuation by a cam 16 on the main shaft 2.

Within the lower portion of the supporting driver head 7 (Figs. 5 and 9) is the horizontally sliding anvil member 17, having at its forward end an anvil portion proper 18, which for the forming of the staple is adapted to be projected into the path of the staple former 9 by means of a lever 19 (Figs. 2 and 5) pivoted at 20 to the frame of the machine and having at its upper end the cam roll 21 engaging the cam 22 on the main shaft 2. In order to prevent rotation of the anvil member 17 in its supporting driver head 7, said anvil member is provided (Fig. 9) behind the frame head, with the laterally projecting arm 23 having a squared end 24 to slide within the rear forked end 25 of the stud 26 fixed to and projecting rearwardly from the supporting driver head 7. To reciprocate the anvil, the arm 23 is provided with a squared bushing 27 (Fig. 9) to be engaged by the forked lower end of the anvil operating lever 19, said bushing being of a length sufficient to allow it to move laterally with respect to its operating lever 19, upon lateral adjustment of the supporting driver head 7. To allow the lever 19 to have its movement, even though the anvil 17 may be accidentally prevented from movement at any time, as for example by the presence of a broken driver in the guideway of the forming and driving mechanism, the rear jaw of the fork 28 (Figs. 2 and 5) of the lever 19 is provided with a socket 29 carrying a spring stud 30 which engages the bushing 27 at all times, the tension of the spring 31 of the stud being sufficient to move the anvil member 17 forward under normal conditions but adapted to yield to allow for movement of the lever 19 when the anvil is prevented from forward movement.

Within the guide-way 8 (Fig. 4) and preferably also within an auxiliary guide-way 32 of the staple former 9 is carried the driver bar 33 of the staple driver 34, said driver bar terminating at its upper end (Figs. 2 and 3) in a horizontal transverse dovetail projection 35 entering a corresponding slide-way 36 in the lower extremity of a driver bar actuator 37 mounted to slide vertically in a fixed guide-way 38 upon the upper front portion of the machine frame. The sliding connection between the driver bar 33 and the extension 37 thereof provides for the lateral adjusting movement of the forming and driving mechanism with respect to the wire feeding and cutting mechanism above referred to, to provide for varying the lengths of the staples. The actuator is operated by a strut 39, which in turn is actuated from the spring arm 40, pivoted at 41 in an upwardly extended arm 42 of the machine frame.

The spring 43 which furnishes power for the arm 40 is provided with suitable tension adjusting means consisting here (Fig. 1) of a ratchet 44, to a stud 45 of which one extremity 46 of the spring is secured. A spring-controlled pawl 47, pivoted at 48 upon the frame arm 42, serves to hold the ratchet in adjusted position and the latter may be provided with a handle 49 to facilitate adjustment of the spring tension.

In the operation of the machine the driver is raised against the tension of the spring 43, by a cam 37^a (Fig. 1) on the forward end of the main shaft 2. This cam engages a foot 37^b on the driver bar actuator 37 and lifts the same until the highest point of the cam passes from under the foot 37^b, when the driver is driven down sharply by the spring 43.

The lower end of the guide-way 8 (Figs. 1 and 5) carrying the staple forming and driving mechanism, is provided with a suitable throat 50, through which the staples are driven by the driver into the work.

To adjust the staple forming and driving mechanism with respect to the strip feeding and cutting mechanism to be hereinafter described, the driver head 7, which carries the former, has its rearwardly extending portions provided at its upper side (Figs. 1 and 2) with a lug 51 having a rearwardly projecting stud 52 engaged by the forked arm 53 (see Fig. 7) of an adjusting lever 54, pivoted at 55 (Figs. 1 and 2) to the main frame of the machine. Upon either side of the lever 54 are secured also to the machine frame, the arc-shaped guides 56 graduated at 56^b (Fig. 7) upon thin faces and having upon their outer sides notches 56^a, corresponding with the graduations 56^b, said notches to be engaged by a spring pawl 57 (Fig. 1) mounted in a slot 58 in the said adjusting lever 54, whereby raising and lowering of the lever effects the lateral adjustment of the driver head 7, and consequently of the staple forming and driving mechanism with respect to

the wire feeding and cutting mechanism. Stop screws 59 at either end of the graduated guides 56, serve to limit the adjustment of the lever 54 and of the mechanism connected therewith.

To the left of the staple forming and driving mechanism (Figs. 1, 3 and 7) and upon a bracket 60 secured to the main frame 2 of the machine by bolts 60^a is the wire feeding and cutting mechanism. The feeding mechanism (see Fig. 4) consists of a milled feed wheel 61 mounted upon the short horizontal shaft 62 (Figs. 4 and 6) and having secured thereto a gear 63 which meshes with a corresponding gear 64 carried by the coöperating feed wheel 65, loose upon a stud 66 carried in a swinging arm 67 (Figs. 3 and 6) pivoted at 68 to the bracket 60. The feed wheel 65 is held in engagement with the complemental wheel 61 by means of a spring 69 (Fig. 6) attached to the forward end of the stud 66 of said wheel 65, and having its opposite end secured for adjustment to a threaded rod 70 which passes through an aperture 71 in an arm 72 projecting from the bracket 60. Adjustment of the rod 70 is effected by means of a nut 73 (Fig. 3) seated upon the upper surface of the arm 72 and the rod is prevented from turning in the arm 72 by means of a key 74 in the arm which engages a groove 75 in the side of the rod 70.

For separating the feed wheels for initial insertion of the metal strip or wire from which the staples are to be formed, the swinging arm 67 (Fig. 6) carrying the lower feed wheel 65 is provided with the lug 76 through which passes a rotatable stud 77 carrying an eccentric 78 that is provided with a handle 79 (Fig. 3) whereby the stud may be rocked to cause the eccentric to depress the arm 67 and move the feed wheel 65 away from the upper feed wheel 61, the spring 69 serving to bring the wheels together again bearing at opposite sides of and upon the metal strip to be fed.

To actuate the feed wheels the shaft 62 upon which the upper feed wheel 61 is mounted, has a ratchet 80 (Figs. 3 and 6) adapted to be operated by ratchet pawls 81 (Fig. 7) mounted upon a pawl carrier 82, which in turn is mounted for rotation upon the feed wheel shaft 62. The pawls here shown (Fig. 3) are three in number and increase in length successively from left to right by an amount equal to one third of the distance between successive ratchet teeth on the ratchet 80, thus providing for finer graduation of adjustment of the ratchet and consequently of the wire feed, than would be possible with a single pawl traveling the full distance between successive ratchet teeth before engagement. The pawl carrier 82 is provided for its operation with a segmental gear 83 (Fig. 7) with which engages a corresponding segmental gear 84 upon the lower extremity of the rocking lever 85, pivoted at 86, to the frame of the machine and having a forked end 87, spanning a cam 88, upon the main shaft 2 of the machine.

To vary the effective throw of the pawls 81, the ratchet 80 is provided with a shield 89 (Figs. 6 and 7) which is secured to a collar 90 rotatably mounted upon the shaft 62, whereby the shield may be adjusted over and to cover the teeth of the ratchet for a greater or less portion of the travel of the pawls thereby to vary the point at which said pawls are permitted to drop into engagement with and rotate the teeth and consequently to vary the resultant effective length of movement of the pawls and consequently of the feed wheel 61 to feed the strip a greater or less distance over the anvil 17.

To impart adjustment to the shield 89, the collar 90 (Fig. 6) is provided with a segmental gear 91 adapted to be engaged by a corresponding segmental gear 92 upon the rocking arm 92^a depending from a sleeve 93 pivoted upon the stud 94 carried by a lug 60^a of the bracket 60. To rock the arm 92 the sleeve 93 thereof is provided with an upwardly extending arm 95 which is connected by a link 96 with a lug 97 (see Figs. 2 and 7) on the hub of the rocking lever 54 so that when the staple forming and driving mechanism mounted upon the driver head 7 is adjusted laterally by means of the lever 54 to vary the length of the staples, the pawl shield 89 will be simultaneously adjusted to vary the engagement of the pawls 81 with the ratchet 80 and consequently to regulate the feed proportionately to the adjustment of said staple forming and driving mechanism.

In case it is desired to form the staples with legs of different lengths the feed may be varied independently of the adjustment of the staple forming and driving mechanism, and to this end the stud 98 (Fig. 7) by which the link 96 is attached to the lug 97 of the adjusting arm 54 is made as an eccentric stud 99 and the lug, 97 is provided with a split bearing or head having a tightening bolt 101 to hold the eccentric stud in adjusted position. By loosening the bolt 101 and turning the eccentric stud 99, the link may be moved to left or right and thus through the lever 95 (Figs. 3 and 6) and collar 91 adjust the pawl shield over the ratchet 80, to uncover the teeth thereof for a greater or less portion of the stroke of the feed pawls, thereby to feed the staple wire a greater or less distance over the anvil, independently of any adjustment of the staple forming and driving mechanism toward and from the feeding and cutting mechanism. Thus, the staple leg on the far side of the anvil will be

of greater or less length than that on the near side according to whether the feed is lengthened or shortened.

The mechanism for severing the blank or length from the strip prior to the forming of the fastener or staple thereon comprises the under and upper coöperating cutters 102 and 103 respectively (Figs. 1 and 4), the under cutter being stationarily mounted adjacent the staple forming and driving mechanism, in the bracket 60 at the inner end of a strip guide-way 104 in said bracket, which serves to conduct the strip from the feed wheels 61 and 65 to the forming and driving mechanism. The upper cutter 103 (Fig. 4) is secured to a block 105ª bolted to a vertically reciprocating slide 105 which is mounted to slide in suitable guide-ways 106 on the bracket 60 and is supported normally in elevated position by means of a spring 107 located within the vertically drilled bore 108 in the reciprocating slide 105 and interposed between a stationary stud 109 projecting upwardly from the bracket 60 and a screw plug 110 in the upper end of the bore 108.

To depress the cutter 103, a rocking arm 111 (Fig. 4) pivoted at 112 in the frame of the machine is provided, which contacts preferably with the head 113 of the plug 110 at the top of the cutter block 105, the lever 111 being actuated by a cam arm 114, also pivoted upon the stud 112, and having a cam roll 115 which is actuated from a face cam 116 in the main shaft 2. To provide vertical adjustment of the upper cutter 103, an adjusting contact screw 117 is interposed between a lateral extension 118 of the arm 114 and upper surface of the cutter actuated arm 111.

As shown in Fig. 4, the cutting edge 102ª of the lower cutter is angularly positioned across the path of the staple strip and the upper cutter edge is similarly positioned to coöperate therewith, to effect a diagonal cut transversely of the strip, whereby the ends of the staple legs will be pointed to more easily enter the work.

The strip or wire 119 (see Fig. 1) from which the fastener is to be formed, may be carried in any convenient manner, as by a reel 120, upon the arm 121, secured to the machine frame.

To prevent rebound of the machine at stopping, any suitable means may be provided, but as here shown the main shaft 2 is provided with a friction wheel 122 (Figs. 2 and 8) coöperating with a friction stop consisting of a metal friction ball 123 held in a bracket 124 depending from the upper arm of the machine frame and constantly pressed by the spring stud 125 toward the converging rim of the wheel 122 and the interior wall 126 of the bracket 124.

Preparatory to the operation of the machine the strip or wire is threaded between the feed wheels 61 and 65 and along the guide-way 104 to the staple forming and driving mechanism. When the machine is started the feed wheels are rotated by the ratchet and pawl mechanism 80 and 81 on the shaft 62 of the feed wheel 61 to cause a sufficient length of the strip to be fed over the anvil 18, which at this time projects within the path of the staple former 9. The staple former 9 then descends and as it meets or contacts with the strip of material and presses the same firmly upon the anvil 18, at the same instant, the upper cutter 103 in its descent, severs a staple length of material from the strip. Further descent of the staple forming member 10 serves to bend the severed portion of the strip over and down at both sides of the anvil 18 to form the staple or fastener. The anvil 18 is then retracted from the path of the staple, whereupon the driver, which has in the meantime been raised by the cam 37 now drops from said cam and, under the influence of the spring arm 40 drives the staple into the work, which latter is firmly held by the operator against the end of the throat 50 (Fig. 4).

When during the operation of the machine, it is desired to vary the length of the staples for the particular work in hand the operator lowers or raises the adjusting lever 54, and through its connection described moves the staple forming and driving mechanism toward or from the strip feeding and cutting mechanism as the case may be. Simultaneously with the adjustment of this mechanism the ratchet shield 89 is adjusted also as described over the ratchet 80 by the link 96 and the described connections with the rocking gear arm 92, coöperating with the gear 91 carrying said shield, vary the time of engagement of the feed pawls 81 with the ratchet 80 and so vary the feed of the staple strip.

With normal adjustment of the parts, the fastener forming strip is fed equally to both sides of the anvil 18, so that the legs of the fastener will be of equal length, as under these conditions the strip is fed as much further beyond the anvil as the latter is adjusted from the strip severing mechanism, or vice versa. Some manufacturers, however, desire staples having one of their legs longer than the other and they may readily be had with my machine at any time and to any extent by adjusting the eccentric stud to move the ratchet shield 89 over the ratchet 80 independently of the adjustment of the staple forming and driving mechanism.

Inasmuch as the respective movements of the staple former, the driver and the anvil are rectilinear movements, it is obvious that the connections thereof with their respective actuating means may be of the simplest description, as for example, the simple sliding movement between the driver, staple former and anvil and their respective actuators here-

in shown and described; consequently said parts may be made adjustable to and from the feeding and cutting mechanism without undue complication of the driving connection. Whereas in the construction in which the feed wheels and cutting knives are made adjustable with respect to the staple forming and driving mechanism, as shown in the patent to Hamm and Eaton, No. 571,227 of 1896, it is necessary to provide more or less complicated connections between said mechanisms and their actuating means, especially between the shaft upon which the feed wheel is mounted and the actuating shaft therefor; hence by my construction above described the structure and operation of the parts is greatly simplified and rendered more compact and efficient.

While I have herein described a preferred form of my invention, it is to be understood that my invention is not limited to the embodiment here shown, but that the machine may be varied in detail and relative arrangement of parts without departing from the spirit and scope of the invention.

Claim.

1. In a machine of the character specified, the combination with wire feeding and severing mechanism, of staple forming and driving means, an actuator for said means, and connections intermediate said means and actuator constructed and arranged to permit lateral movement of said staple forming and driving means relative to the feeding and severing mechanism in the production of staples of different lengths.

2. In a machine of the character described, the combination of wire feeding and severing mechanism, staple forming and driving means, an actuator for said means, connections intermediate said means and actuator constructed and arranged to permit lateral movement of said staple forming and driving means toward and from the feeding and severing mechanism in the formation of staples of different lengths, and means for simultaneously effecting such lateral movement of the forming and driving means.

3. In a machine of the character specified, the combination with variable wire feeding means, and severing means, of staple forming and driving means and operating devices therefor constructed and arranged to permit the forming and driving means to be laterally adjustable relatively to said feeding and severing means in forming staples of different lengths, and means simultaneously to vary the feed and to effect such relative adjustment.

4. In a machine of the character specified, the combination with staple forming and driving mechanism, a support for said mechanism, of wire feeding and severing mechanism, and means to adjust said support and with it the staple forming and driving mechanism relatively to said feeding and severing mechanism to vary the length of the staples formed by the machine.

5. In a machine of the character specified, the combination with staple forming and driving mechanism, an adjustable support for said mechanism, of wire feeding and severing mechanism and means to adjust said support relatively to said feeding and severing mechanism and to simultaneously vary the feed to vary the length of the staple.

6. In a machine of the character described, the combination of wire feeding and severing mechanism, a staple former and staple driver, actuating means for said former and driver constructed and arranged to permit movement of the former and driver laterally toward and from the feeding and severing mechanism in forming staples of different lengths, and means for varying the feed independently of such movement of the former and driver in changing the lengths of the staple legs.

7. In a machine of the character specified, the combination with a feed ratchet its pawl or pawls and a pawl shield therefor, of staple forming and driving mechanism, a carrier therefor, means for moving the carrier laterally and with it the staple forming and driving mechanism, and a link connecting said shield and carrier whereby said shield may be adjusted relatively to said ratchet to vary the feed by the adjustment of said carrier.

8. In a machine of the character described, the combination of feeding and severing mechanism, a staple former and driver, actuating mechanism for said former and driver, connections intermediate said former and driver and the actuating mechanism constructed and arranged to permit sliding movement laterally of the former and driver towards and from the feeding and severing mechanism in producing staples of different lengths, operative relation between the former and driver and said connections being maintained during such lateral movement.

9. In a machine of the character specified, the combination with wire feeding and severing mechanism, of a staple former and driver, and actuating means therefor, connections intermediate said former and driver and actuating means constructed to permit movement laterally of the former and driver while maintaining operative relation with the actuating means, and means to vary the action of the feeding mechanism simultaneously with the lateral movement of the former and driver.

10. In a machine of the character specified, the combination with wire feeding and severing mechanism, of staple forming and driving mechanism, an adjustable carrier therefor, and a lever for adjusting said car-

rier and with it the staple forming and driving mechanism to vary the length of the staples.

11. In a machine of the character specified, the combination with wire feeding and severing mechanism, of staple forming and driving mechanism, and a laterally movable carrier therefor, a lever for moving said carrier and with it the staple forming and driving mechanism to vary the length of said staples, and a scale to indicate the extent of said adjustment.

12. In a machine of the character described the combination with a reciprocating anvil, of an actuator therefor and relief means interposed between said anvil and actuator whereby the actuator may continue to operate when the anvil is prevented from operating.

13. In a machine of the character described the combination with a reciprocating anvil, of an actuator therefor and yielding means interposed between said anvil and actuator whereby the actuator may continue to operate when the anvil is prevented from operating.

14. In a machine of the character described the combination with a staple driver, means for adjusting the staple driver laterally to accommodate its position to different characters of staples, and an actuator therefor, of shiftable connections between said driver and actuator maintaining driving connection between the driver and actuator at all times, whereby the former may be actuated by the latter in all positions of adjustment.

15. In a machine of the character specified, the combination of staple driving mechanism and adjusting mechanism therefor, comprising an adjusting lever having a slotted shank, a spring pawl mounted within said slotted shank and projecting upon either side thereof and ratchet members upon either side of said lever adapted to be engaged by said pawl to hold the lever in adjusted position.

16. In a machine of the character described the combination with wire feeding means, hand manipulated means for adjusting the feeding means, of an eccentric in the train of the hand adjusting means to adjust said feeding means relatively to said adjusting means.

17. In a machine of the character described, a movable head, an anvil carried by said movable head, an actuator for said anvil, an arm projecting laterally from the anvil, a stud having a forked portion in which said arm is movable as the anvil is operated by its actuator to prevent axial turning movement of the anvil.

18. In a stapling machine, the combination of a movable driver head, a staple former, driver, and anvil carried by said movable head, wire feeding and cutting mechanism, and means for moving the driver head and the parts carried thereby towards and from the wire feeding and cutting mechanism.

19. In a stapling machine, the combination of a driver head, a staple former, driver, and anvil carried by said head, actuating means and connections for said former, driver, and anvil constructed to permit lateral movement thereof, wire feeding and cutting mechanism, and means for moving the driver head and the parts carried thereby towards and from the wire feeding and cutting mechanism, and means to vary the feeding mechanism simultaneously with movement of the driver head.

20. In a machine of the character described, the combination of a movable head, a staple former and staple driver carried by said movable head, actuating means and connections for said former and driver constructed to permit lateral movement thereof while maintaining operative relation therewith, wire feeding and cutting means, means for moving the head and with it the staple former and driver towards and from the wire feeding and cutting means, and a gage to determine the extent of such movement.

21. In a machine of the character described, the combination of a head, a staple former, an anvil, and a driver carried thereby, a feeding and severing mechanism, a lever for moving the head and parts carried thereby toward and from the feeding and severing mechanism, and means controlled by movement of said lever for changing the feed.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

PERLEY R. GLASS.

Witnesses:

RALPH C. POWELL,

ANNIE E. CHESLEY.