

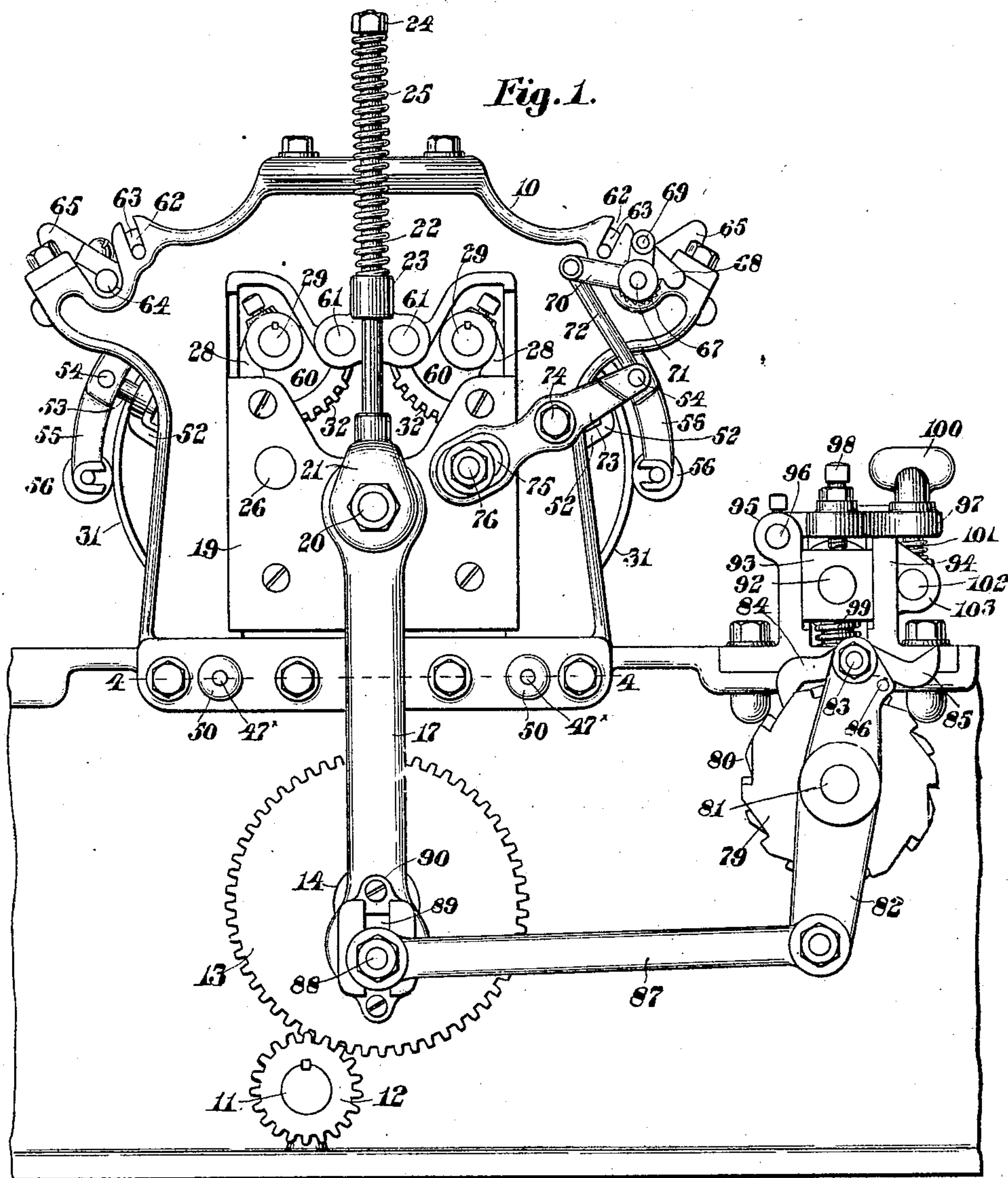
No. 868,478.

PATENTED OCT. 15, 1907.

G. W. PROUTY.  
PRINTING PRESS:

APPLICATION FILED DEC. 17, 1906.

3 SHEETS—SHEET 1.



**Witnesses:**

Nathan C. Lombard  
Herbert A. Hall

**Inventor:**

George W. Prouty,  
by *Nathan C. Lombard*  
Atty.

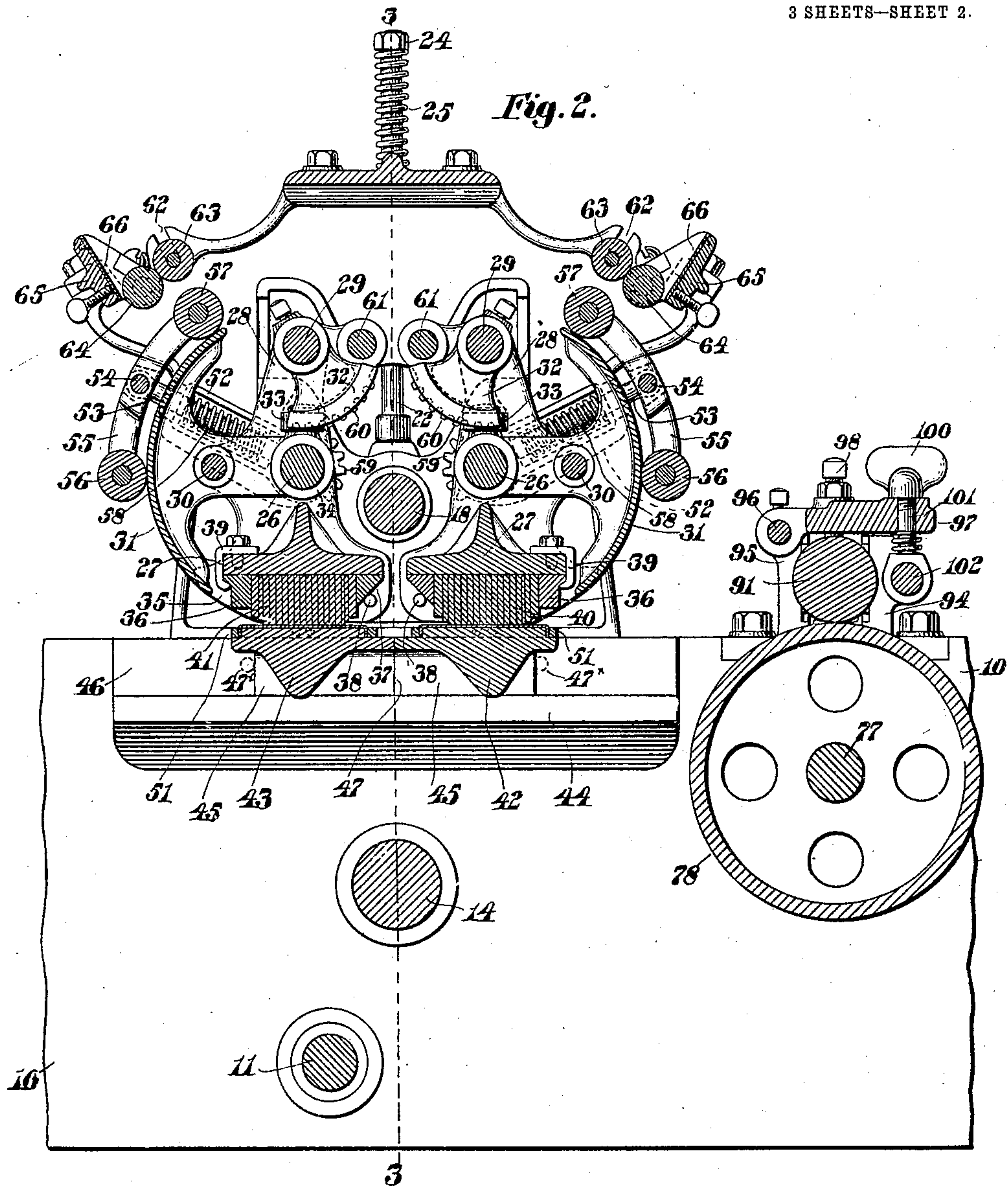
No. 868,478.

PATENTED OCT. 15, 1907.

G. W. PROUTY.  
PRINTING PRESS.

APPLICATION FILED DEC. 17, 1906.

3 SHEETS—SHEET 2.



**Witnesses:**

Nathan C. Lombard  
Herbert A. Hall

**Inventor:**

George W. Prouty,  
by *Walter E. Lombard*  
Atty.



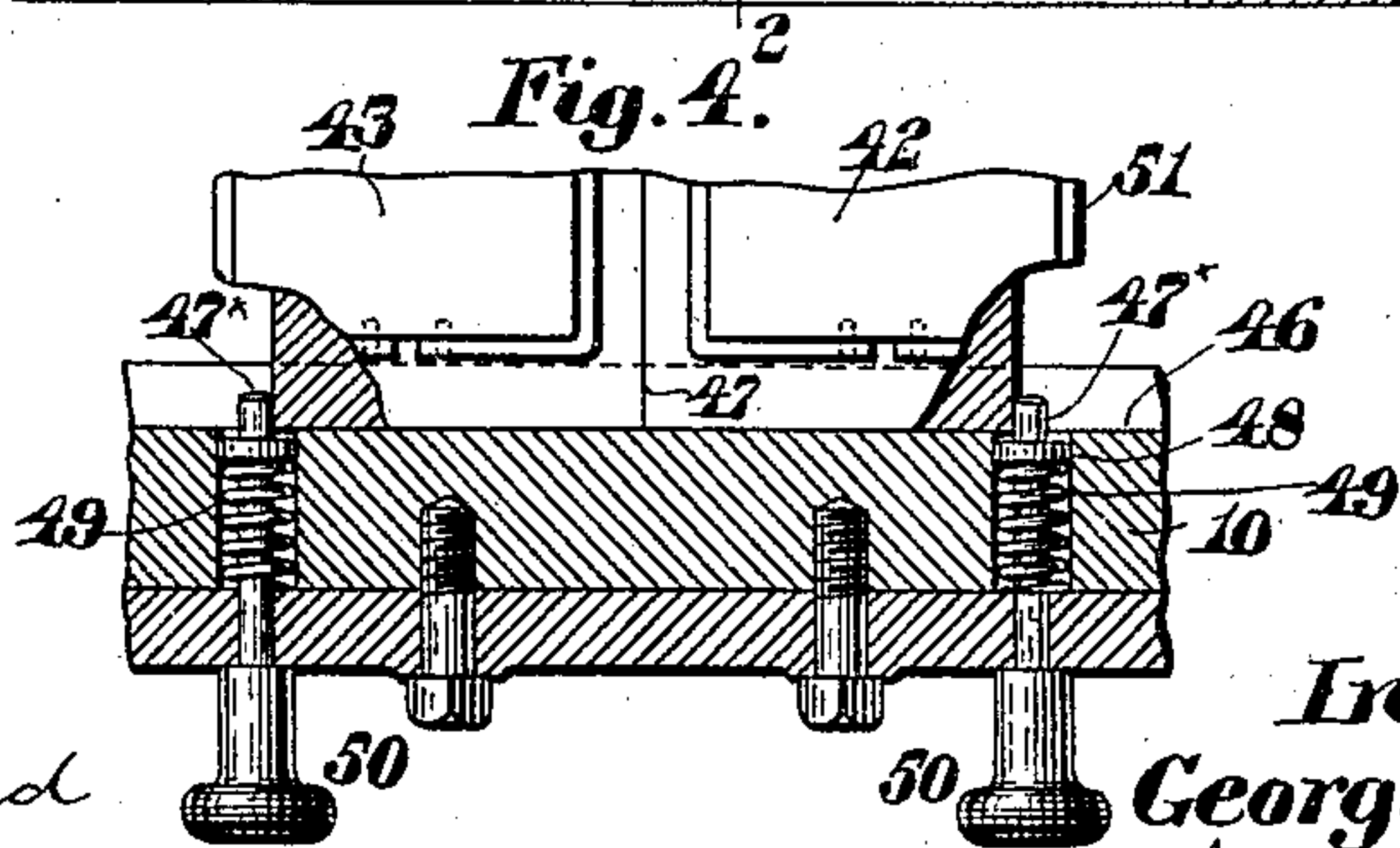
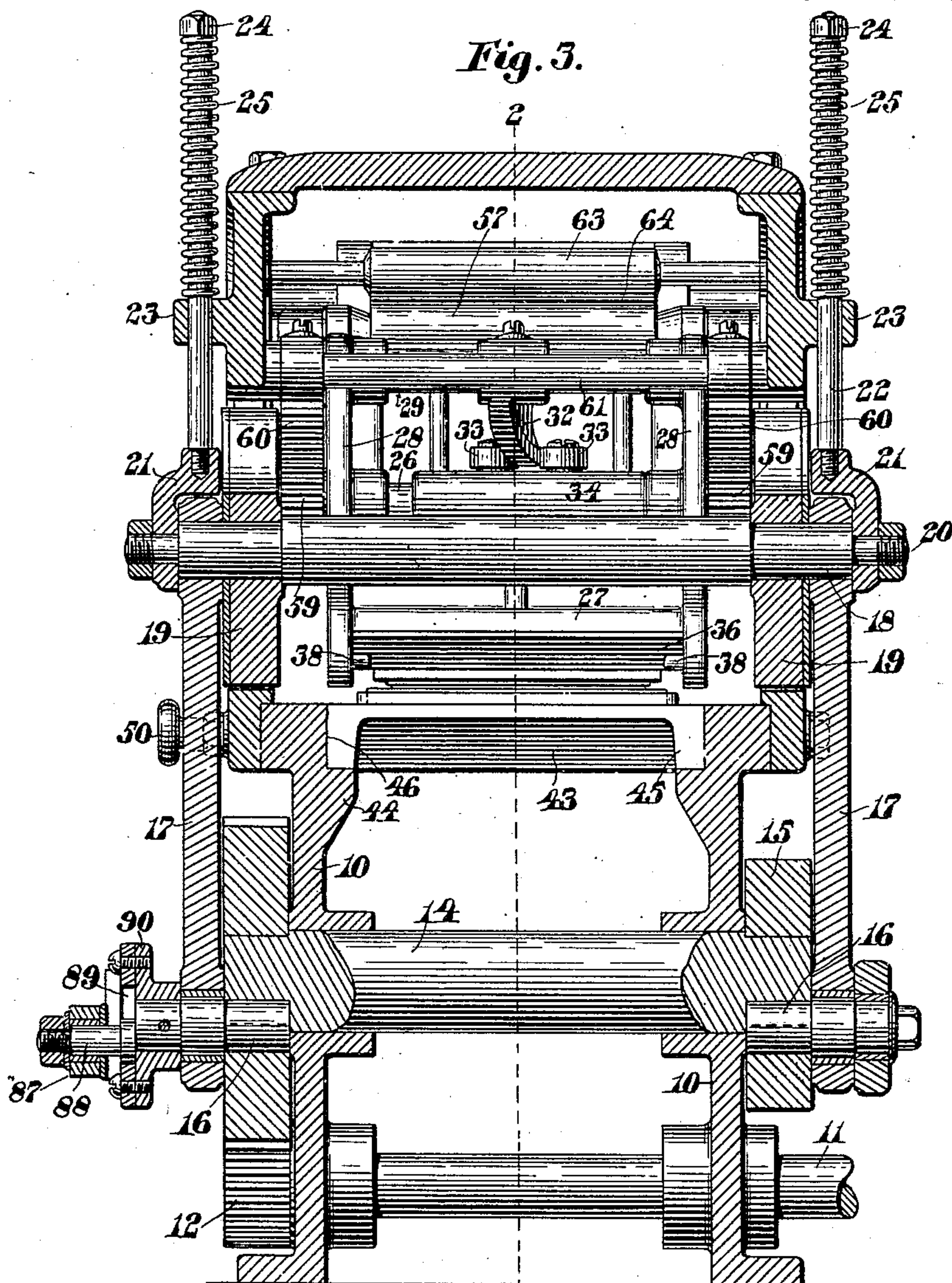
No. 868,478.

PATENTED OCT. 15, 1907.

G. W. PROUTY.  
PRINTING PRESS.

APPLICATION FILED DEC. 17, 1906.

3 SHEETS—SHEET 3.



**Witnesses:**  
Nathan C. Lombard  
Herbert A. Hall

**Inventor:**  
George W. Prouty,  
by Walter E. Lombard,  
Atty.



# UNITED STATES PATENT OFFICE.

GEORGE W. PROUTY, OF DORCHESTER, MASSACHUSETTS.

## PRINTING-PRESS.

No. 868,478.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed December 17, 1906. Serial No. 348,136.

*To all whom it may concern:*

Be it known that I, GEORGE W. PROUTY, a citizen of the United States of America, and a resident of Dorchester, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Printing-Presses, of which the following is a specification.

This invention relates to printing presses and has for its object the production of a press in which two impressions may be made simultaneously by a reciprocating frame upon material fed beneath the printing forms, one of said impressions being complementary to the other.

Another object of the invention is the production of a press having a reciprocating bed frame in which an impression may be made upon material being fed beneath the printing form and a second imprint may be made simultaneously upon that portion of the material printed upon at the last operation of the machine.

The invention has for a further object the production of a press provided with two reciprocating printing forms each of which is provided with an independent inking apparatus thereby permitting a distinct color to be used on each form and imprinted upon the material at each operation.

The invention further consists in certain novel features of construction and arrangement of parts which will be readily understood by reference to the description of the drawings and to the claims hereinafter given.

Of the drawings: Figure 1 represents a side elevation of a portion of a printing press embodying the features forming part of this invention. Fig. 2 represents a central longitudinal section thereof, the cutting plane being on line 2—2 on Fig. 3. Fig. 3 represents a transverse vertical section on line 3—3 on Fig. 2, and Fig. 4 represents a partial horizontal section through one side of the frame on line 4—4 on Fig. 1 and showing the platens partly in plan.

Similar characters designate like parts throughout the several figures of the drawings.

In the drawings, 10 represents the side frames of a portion of a printing press provided with a driving shaft 11 upon which is secured a driving pinion 12 meshing with a gear 13 secured to and revoluble with a crank shaft 14 extending transversely of the machine through the side frames 10. To the opposite end of the shaft 14 is secured a crank plate 15. The crank plate 15 and the gear 13 are both secured to the ends of the shaft 14 by means of the crank pins 16 having a seat partly in the projecting ends of the shaft 14 and partly within the members 13 and 15. Each of the crank pins 16 has mounted thereon a draw bar 17 the opposite end of which is pivotally connected to a shaft 18 extending transversely of the machine and through the boxes 19

mounted in the frames 10 and adapted for vertical reciprocation by the revolution of the shaft 14 with its crank pins 16 in an obvious manner.

The shaft 18 is provided at either end with a reduced portion 20 on each of which is mounted a member 21 provided with a vertical rod 22 extending upwardly through a bearing in an ear 23 extending outwardly from the frame 10. The outer end of the rod 22 is provided with an adjustable nut 24 between which and said ear 23 is interposed a coiled spring the purpose of which will be hereinafter described.

Extending from one box 19 to its mate on the opposite side of the machine and revolubly mounted in bearings therein are two shafts 26. Upon each shaft 26 is mounted a type bed 27 having at either end thereof between the reciprocating boxes 19 a pair of upwardly extending arms 28 the upper ends of which are provided with suitable bearings for a rocker shaft 29. The arms 28 are also provided with a guide rod 30 extending from one to the other. On each shaft 26 and its companion guide rod 30 is mounted an ink plate 31 the outer surface of which is made concentric to the axis of said shaft 26. This ink plate 31 is adapted to be moved longitudinally of the shaft 26 and guide rod 30 by means of the oscillating cam disk 32 secured to the rocker shaft 29 and co-acting with projections such as rollers 33 secured to the slidable hub 34 of said ink plate 31.

It is obvious that an oscillation of the shaft 29 with the cam member 32 will operate upon the rollers 33 to cause the ink plate 31 to reciprocate longitudinally of the shaft 26 and its companion guide rod 30. The lower end of the bed 27 is provided with suitable side plates 35 which serve as side guides for the chase 36 the inner end of which has an inclined face as at 37 which co-acts with pins 38 extending inwardly toward each other from each of the side guide plates 35.

The outer end of the chase is secured by means of the usual locking device 39. Each of the chases 36 is adapted to take a type form 40 and 41. These type forms 40 and 41 are adapted to coöperate with the platens 42 and 43 supported by the inwardly projecting shelf 44 extending inwardly from either side frame 10. Each of the platens 42 is provided with suitable side guide plates 45 resting upon the upper face of said shelf 44 and bearing against the vertical side wall 46 of the side frames 10.

The adjacent ends of the platens abut one another as at 47 and are normally held in this position during the operation of the machine by the spring locking bolts 47\* which extend through the side frames 10 and coöperate with the outer edges of the platen side plates 45 for this purpose. These locking bolts are provided with shoulders 48 mounted in suitable sockets in the side frames each socket being provided with a suitable



spring 49 normally tending to retain the end 47 between the side wall 46 of the side frame. Each of the bolts 47\* is provided with a head 50 by which the bolt may be withdrawn to allow the platens to be separated 5 and moved along the shelf 44 to prepare the tympan and the overlays in the make-ready previous to the operation of printing.

The platens 42 and 43 are each provided with an ordinary tympan clamp 51. Between each of the reciprocating boxes 19 and the adjacent upwardly extending arms 28 is mounted upon the shaft 26 a roller wing or lever 52 having mounted therein a rod 53 to the end of which is pivoted at 54 a saddle 55 having mounted at one end thereof an inking roller 56 and at 15 the other end an ink distributing roller 57 both of said rollers normally contacting with the curved outer surface of the ink plate 31. This contact between the rollers 56 and 57 is provided for by means of the spring 58 surrounding the rod 53 in a well-known manner. 20 Each of the roller wings 52 is provided with a plurality of gear teeth 59 formed concentric to the axis of the shaft 26, said teeth 59 meshing with the teeth of a gear segment 60 movable about the shaft 29. Each gear segment is also pivotally connected to the side frames 25 10 by means of a shaft 61 extending from one of the side frames 10 to the other through openings in said gear segments. The side frames 10 are provided at 62 with slots in which are mounted the ink supply rolls 63 which contact with a roller 64 of an ink fountain 65 of ordinary construction mounted upon the side frames 30 10 and provided with the usual doctor plate 66.

Each of the ink fountain rolls is provided with a ratchet 67 with which cooperate a pawl 68 pivotally connected at 69 to a lever 70 mounted upon the shaft 35 71 of said fountain roll 64 and connected by means of the rod 72 to a lever 73 pivoted at 74 to the side frame 10 and provided with a slot 75 through which passes an extension 76 of the bed shaft 26. By this construction as the boxes 19 reciprocate the lever 73 is moved about 40 the pivot 74 to cause the pawl 68 to act upon the ratchet 67 to move the ink fountain roller and carry thereby fresh ink to the ink supply roller.

Extending transversely of the machine and through the side frames 10 is a shaft 77 on which is mounted 45 between the side frames 10 a feed roll 78. Secured to the shaft 77 outside of the side frames 10 are a pair of ratchet wheels 79—80 each having a different number of teeth. Outside of said ratchet teeth on a reduced end 81 of said shaft 77 is a pawl-carrying lever 82 on a 50 stud 83 in the upper end of which is mounted a pair of pawls 84 and 85 adapted to engage respectively the ratchets 79 and 80. The lever is provided with a supporting pin 86 which will support either of the pawls 84 and 85 which it is desired to throw out of action.

55 The lever 82 is connected by means of the bar 87 with a stud 88 adjustable in the slot 89 formed in the member 90 mounted upon the outer end of the crank pin 16. By adjusting the stud 88 longitudinally of the slot 89 the movement of the pawl lever may be varied to give 60 the precise amount of feed of the material passing between the feed rollers 78 and 91. The press as shown is adapted for printing on two sizes of stock the feed for one size being regulated by throwing the pawl 84 into operation in connection with the ratchet 79 while 65 when it is desired to print upon the other size of stock

this pawl is drawn out of engagement and the pawl 85 thrown into engagement with its cooperating ratchet wheel 80. The feed roller 91 is provided with trunnions 92 extending through boxes 93 slidable in the guide members 94—95 extending upwardly from the 70 side frames 10. The guide member 95 has pivoted to its upper end at 96 a plate 97 at each end of which is mounted an adjustable member 98 cooperating with a box 93 to regulate the tension between the two feed 75 rolls 78 and 91. The boxes 93 are supported by the means of the nut 100 cooperating with the threaded usual spring 99. The plate 97 is held in position by stud 101 pivoted to ears 103 extending from the vertical box guide 94.

When it is desired to insert material between the feed 80 rolls 78 and 91 at the commencement of the operation of printing the nut 100 is loosened permitting the feed roll 91 to be raised by means of the spring 99 so that the two rolls are separated sufficiently to allow the stock to be readily passed between the same. When the stock 85 has been inserted the nut 100 is again operated to move the member 97 about its pivot 96 to cause the feed roll 91 to be moved into position to properly feed the stock or material between the rolls. The adjustable member 98 adjusts for the various thicknesses of stock and 90 when adjusted for one thickness of material this need not be changed when it is desired to insert new material between the feed rolls. After passing the stock between the feed rolls and the type form has been inserted in the beds 27 and the platen made ready the 95 material is passed between the form and the platen, the machine is ready for operation. Power being applied by any suitable source to the driving shaft 11 the shaft 14 will be revolved and by means of the crank pins 16 the feed roll 78 will be operated to feed the stock inter- 100 mittently between the type forms and the platen the length of the feed depending entirely on which pawl and companion ratchet is in operation.

The rotation of the shaft 14 relative to the operation of the pawls upon the ratchet wheel is so timed that the 105 feed mechanism is at rest at the time that the impression is being made upon the stock or material beneath the type forms as shown in Fig. 1, all of the drawings showing the machine in the position in which the various parts are at the time the impression is being 110 given. The rotation of the shaft 14 from this position will cause the reciprocating boxes 19 to be moved upwardly carrying therewith the beds 27 and the ink plate 31. This upward movement of the boxes 19, 115 bed 27, and ink plate 31 causes the gear teeth 59 on the roller wing 52 to engage with the teeth of the gear segment 60 to move said gear segment about its pivotal connection 61 with the side frames 10. As the gear segment 60 is moved about this pivot 61 the teeth of said segment meshing with the teeth of the roller wings 120 52 causes the roller wing of each of the inking devices to be moved about its shaft 26 so that the ink distributing roller 57 passes from its position shown in Fig. 2 over the surface of the curved ink plate 31 while at the same time the inking roller 56 passes downward over 125 the surface of the ink plate 31 and therefrom to the type forms 40 and 41 thereby inking the type form preparatory for another impression. The ink distributing roller in passing over the ink plate transfers fresh ink to the plate and the inking roller on its return move- 130



ment gathers to itself a portion of this ink ready to transfer the same to the type form at the next operation of the machine.

The movement of the gear segment 60 about its pivot 5  
otal connection 61 with the frame 10 during the upward movement of the bed 27, owing to its connection 29 with the upwardly extending arms 28 of the bed 27 causes this bed with the ink plate 31 to be moved about the shaft 26 toward the inking rollers to facilitate the operation of inking the type form and lessen the distance of travel of said rollers. When the ink distributing roller 57 has moved downwardly over the surface of the ink plate 31 and the ink plate with the bed 27 continues to rise owing to the reciprocation of the bed boxes 19 the upper part of the ink plate 31 contacts with the ink supply roller 63 and transfers to the ink plate a portion of the ink contained thereon which is distributed over the ink plate by the ink distributing roller 57 at the next operation. During this vertical reciprocation of the bed boxes 19 the shaft 29 being secured to the gear segments 60 is caused to oscillate and this oscillation is transferred to the cam member 32 which operates upon the rollers 33 on the hub 34 of the ink plate 31 and causes a reciprocation of said ink plate longitudinally of the shaft 26 and rod 30 as heretofore described. The spring 25 surrounding the rod 22 serves as a counterbalance for the reciprocating beds 27 and prevents the downward movement thereof being too sudden.

The construction of a printing press in the manner shown and described provides a ready means whereby two impressions may be given simultaneously to material passed beneath its type forms each impression being made with a different color of ink if desired and one impression being complementary to the other. By such an arrangement very ornamental printing designs may be impressed upon the material accurately registered and of different colors.

It is believed that with the foregoing description the operation of the mechanism will be thoroughly understood and the many advantages of a device of this construction will be fully apparent without being set forth herein further in detail.

Having thus described my invention, I claim:

1. In a printing press, the combination of a reciprocating bed; a platen; an ink plate reciprocating with said bed; a lever on the pivot of said bed provided with a segment of gear teeth; an inking roller secured to said lever; and a gear segment meshing with said lever teeth pivoted to an arm of said bed radial to said pivot and to a fixed portion of the frame.

2. In a printing press, the combination of a reciprocating frame; a type bed movable therewith; an ink plate carried thereby; an inking roller therefor; a stationary ink supply; an ink distributing roller; and means operable by the reciprocation of said frame for moving said ink distributing roller over the surface of said plate and the inking roller over a portion of said plate and the form carried by said bed.

3. In a printing press, the combination of a reciprocating frame; a type bed movable therewith; a platen normally positioned in alinement with said bed but movable from the path thereof; an ink plate carried by the frame; an inking roller therefor; a spring-pressed bolt for locking said platen in operating position; and means operable by the reciprocation of said frame for moving said roller over the surface of said plate and the form carried by said bed.

4. In a printing press, the combination of a reciprocating frame; a type bed pivoted thereto and movable therewith; an ink plate movable with said type bed about its pivot at each reciprocation of said frame; an inking roller therefor; and means operable by the reciprocation of said frame for moving said roller over the surface of said plate and the form carried by said bed.

5. In a printing press, the combination of a reciprocating frame; a type bed pivoted thereto and movable therewith; a curved ink plate movable with said type bed about its pivot at each reciprocation of said frame; an inking roller therefor; a pivoted lever for carrying said roller; and means operable by the reciprocation of said frame for moving said roller over the surface of said plate and the form carried by said bed.

6. In a printing press, the combination of a reciprocating pivoted bed; a platen; an ink plate movable with said bed; a lever pivoted to said bed; an inking roller carried thereby; and means interposed between said lever and bed to effect a movement of said roller over said plate and a movement of said plate about its pivot by the reciprocation of said bed.

7. In a printing press, the combination of a pair of reciprocating members; a bed pivoted thereto and movable about said pivot at each reciprocation of said members; a platen; an ink plate movable with said bed; a lever pivoted to said bed; an inking roller carried thereby; an ink fountain composed in part of an ink supply roller; means pivoted to the main frame and operable by one of said reciprocating members for moving said ink supply roller about its axis; and means interposed between said lever and bed to effect a movement of the inking roller over said plate by the reciprocation of said bed.

8. In a printing press, the combination of a pair of reciprocating members; a bed pivoted thereto and movable about said pivot at each reciprocation of said members; a platen; an ink plate movable with said bed; a lever pivoted to said bed; an inking roller carried thereby; an ink fountain composed in part of an ink supply roller; a ratchet on said ink supply roller; a lever pivoted to the main frame and operable by one of said reciprocating members; a pawl on said lever engaging said ratchet; and means interposed between said lever and bed to effect a movement of the inking roller over said plate by the reciprocation of said bed.

9. In a printing press, the combination of a reciprocating pivoted bed; a platen; an ink plate reciprocating with said bed and movable at each reciprocation of said bed about its pivot; a lever pivoted to said bed provided with an inking roller and an ink distributing roller; and means operable by the reciprocation of said bed for moving said rollers over the surface of said ink plate.

10. In a printing press, the combination of a reciprocating bed; a platen; a curved ink plate reciprocating with said bed; a lever pivoted to said bed provided with an inking roller and an ink distributing roller; and means operable by the reciprocation of said bed for moving said rollers over the surface of said ink plate and the ink roller over a portion only of said bed and over the form carried by said bed.

11. In a printing press, the combination of a reciprocating pivoted bed; a platen; an ink plate reciprocating with said bed and movable about said pivot at each reciprocation; a lever pivoted to said bed provided with an inking roller and an ink distributing roller; an ink fountain; an ink supply roller cooperating therewith; means for causing said ink plate to contact with the ink supply roller at one end of the reciprocation of said bed and means operable by the reciprocation of said bed for moving said rollers over the surface of said plate and the inking roller over the form carried by said bed.

12. In a printing press, the combination of a reciprocating bed; a platen; an ink plate mounted upon said bed and movable transversely thereon; a lever pivoted to said bed; an inking roller carried thereby; means operable by the reciprocation of said bed for moving said roller over said ink plate; and means for causing a transverse reciprocation of said plate during the vertical reciprocation of said bed.

13. In a printing press, the combination of a reciprocating bed; a platen; an ink plate mounted upon said bed



- and movable transversely thereon; a projection thereon; a lever pivoted to said bed; an inking roller carried thereby; means operable by the reciprocation of said bed for moving said roller over said ink plate; and a cam cooperating with said projection for causing a transverse reciprocation of said ink plate during the vertical reciprocation of said bed.
14. In a printing press, the combination of a reciprocating bed; a platen; an ink plate mounted upon said bed and movable transversely thereon; two projections thereon; a lever pivoted to said bed; an inking roller carried thereby; means operable by the reciprocation of said bed for moving said roller over said ink plate; and an inclined oscillating plate interposed between said projections for causing a transverse reciprocation of said ink plate during the vertical reciprocation of said bed.
15. In a printing press, the combination of a pair of reciprocating frames; a connecting member between said frames; a bed mounted thereon provided with upwardly extending arms; an ink plate mounted upon said connector; levers pivotally mounted upon said connector and provided with gear teeth; inking rollers carried by said levers; a rocker shaft mounted in said bed arms; gear segments mounted thereon meshing with the teeth on the ink roller levers; and a pivotal connection between said gear segments and the frame of the machine.
16. In a printing press, the combination of a pair of reciprocating frames; a connecting member between said frames; a bed mounted thereon provided with upwardly extending arms; an ink plate mounted upon said connector; levers pivotally mounted upon said connector and provided with gear teeth; inking rollers carried by said levers; a rocker shaft mounted in said bed arms; gear segments mounted thereon meshing with the teeth on the ink roller levers; a pivotal connection between said gear segments and the frame of the machine; a cam secured to said rocker arm and movable therewith; and mechanism upon said ink plate cooperating with said cam to cause a transverse reciprocation thereof.
17. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; and means for printing an impression from each form simultaneously.
18. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously; and means for feeding material between said platens and forms.
19. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously; and automatic means for intermittently feeding material between said platens and forms.
20. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously, the impression from one form being the complement of the other; and automatic means for intermittently feeding material between said platens and forms.
21. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously, the impression from one form being upon that portion of the material printed upon by the other form at the last impression; and automatic means for intermittently feeding material between said platens and forms.
22. In a printing press, the combination of a reciprocating bed; a platen; an ink plate reciprocating with said bed; a lever pivoted to said bed; a roller carried thereby over said ink plate; and means operable by the reciprocation of said bed for moving said roller and ink plate simultaneously in opposite directions.
23. In a printing press, the combination of a reciprocating bed; a platen; crank mechanism; connectors between said crank mechanism and said reciprocating bed; a rod attached to each connector extending through an ear on the frame of the machine and provided with a suitable head; and a spring between said head and ear.
24. In a printing press, the combination of a reciprocating frame provided with two pivots; a type-carrying bed mounted on each pivot; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; and means operable by the reciprocation of said frame for moving said beds about their pivots.
25. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently pivoted to said reciprocating frame; means operable by the reciprocation of said frame for moving said type carrying beds about their pivots; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; and means for printing an impression from each form simultaneously.
26. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently pivoted to said reciprocating frame; means operable by the reciprocation of said frame for moving said type carrying beds about their pivots; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously; and means for feeding material between said platens and forms.
27. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently pivoted to said reciprocating frame; means operable by the reciprocation of said frame for moving said type carrying beds about their pivots; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously; and automatic means for intermittently feeding material between said platens and forms.
28. In a printing press, the combination of a revoluble crank shaft; a type bed; a link between said bed and crank shaft whereby said bed is positively reciprocated; and mechanism secured to said bed reciprocating mechanism for balancing said bed and insuring an even movement of said crank shaft in its revolution.
29. In a printing press, the combination of a revoluble crank shaft; a type bed; a link between said bed and crank shaft whereby said bed is positively reciprocated; a rod secured to said bed reciprocating mechanism extending through an ear on the frame of the machine and provided with a suitable head; and a spring interposed between said head and ear.
30. In a printing press, the combination of a revoluble crank shaft; a type bed; a shaft extending through said bed; reciprocating bearings mounted upon either end of said last named shaft; a link between each end of said bed shaft and said crank shaft whereby said bed is positively reciprocated; a member mounted upon each end of said bed shaft; a rod therein extending through an ear on the frame of the machine and provided with a suitable head; and a spring interposed between said head and ear.
- Signed by me at Boston, Mass., this 14th day of December, 1906.
- GEORGE W. PROUTY.
- Witnesses:  
WALTER E. LOMBARD,  
EDNA C. CLEVELAND.