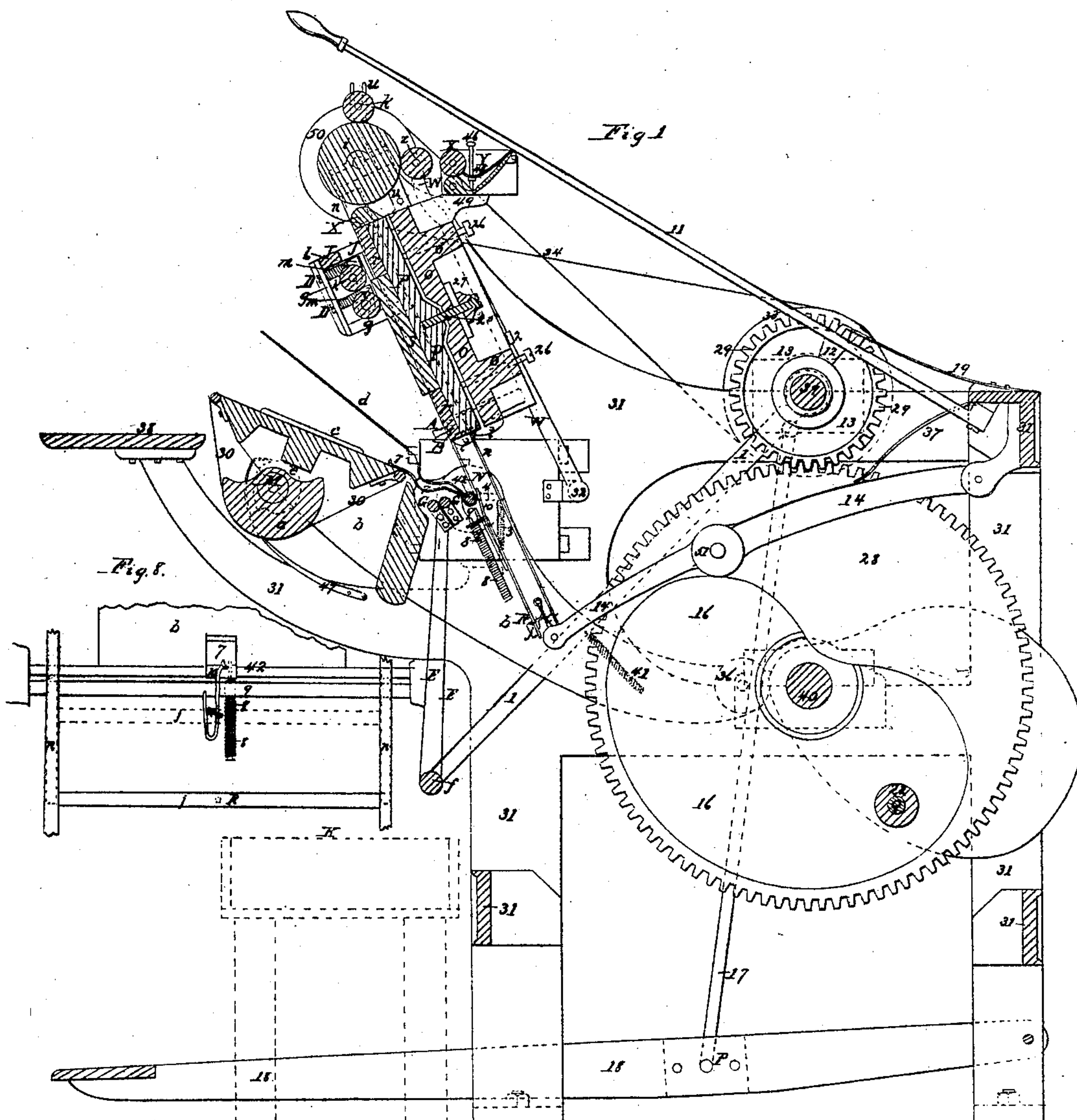


S. ADAMS.  
PRINTING PRESS.

No. 9,606.

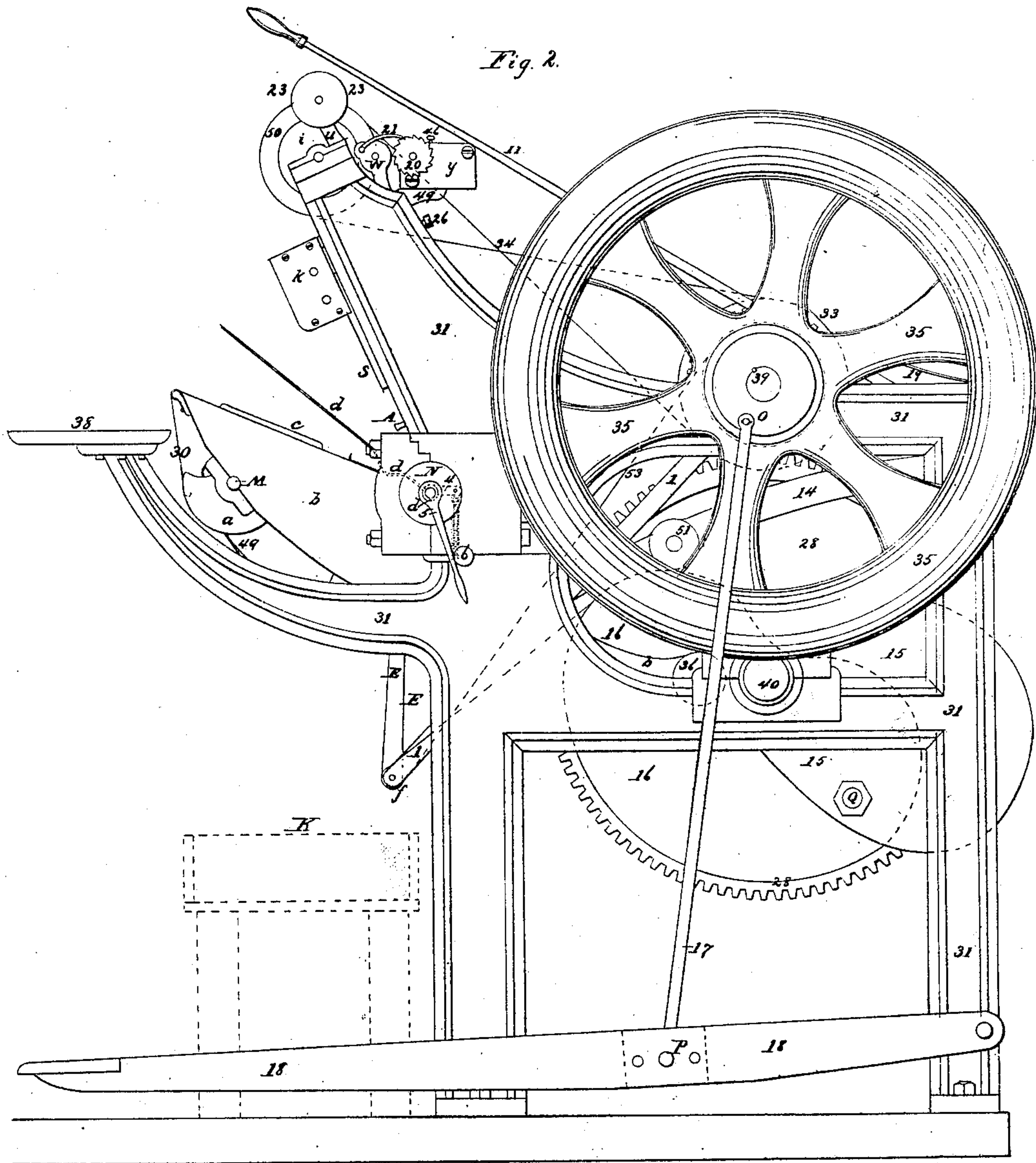
Patented Mar. 8, 1853.



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PRINTING PRESS.

No. 9,606.

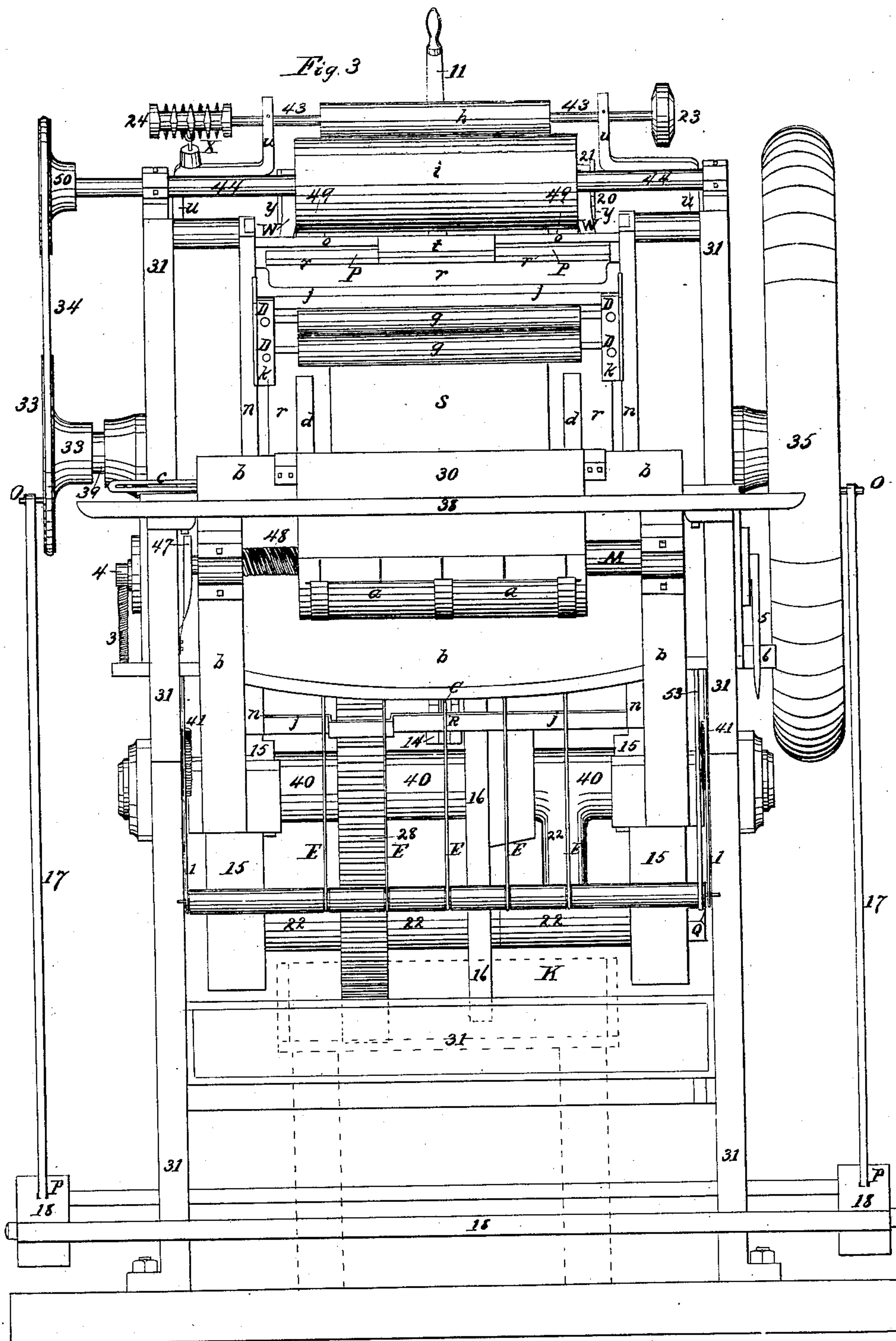
Patented Mar. 8, 1853.



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PRINTING PRESS.

No. 9,606.

Patented Mar. 8, 1853.

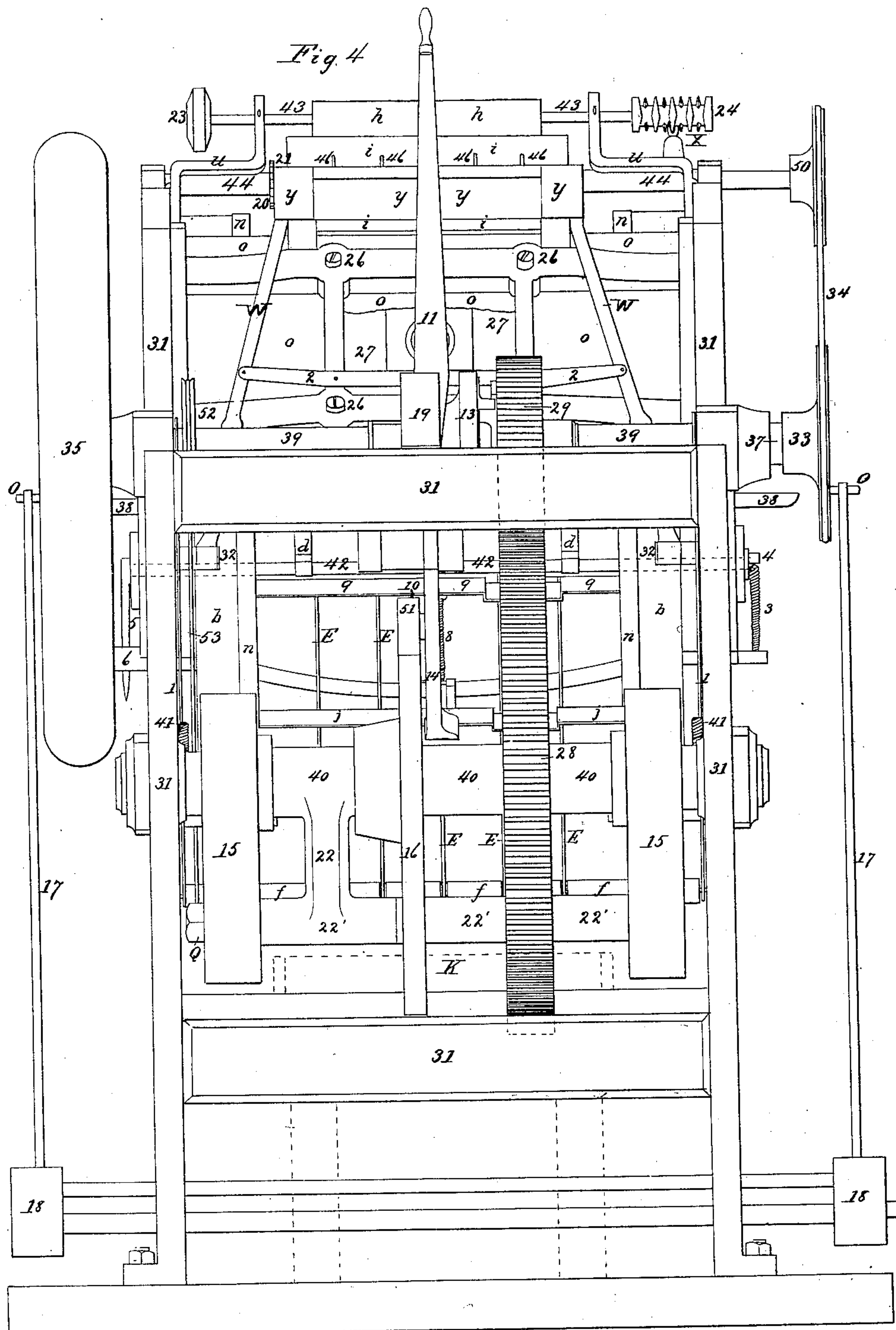




S. ADAMS.  
PRINTING PRESS.

No. 9,606.

Patented Mar. 8, 1853.

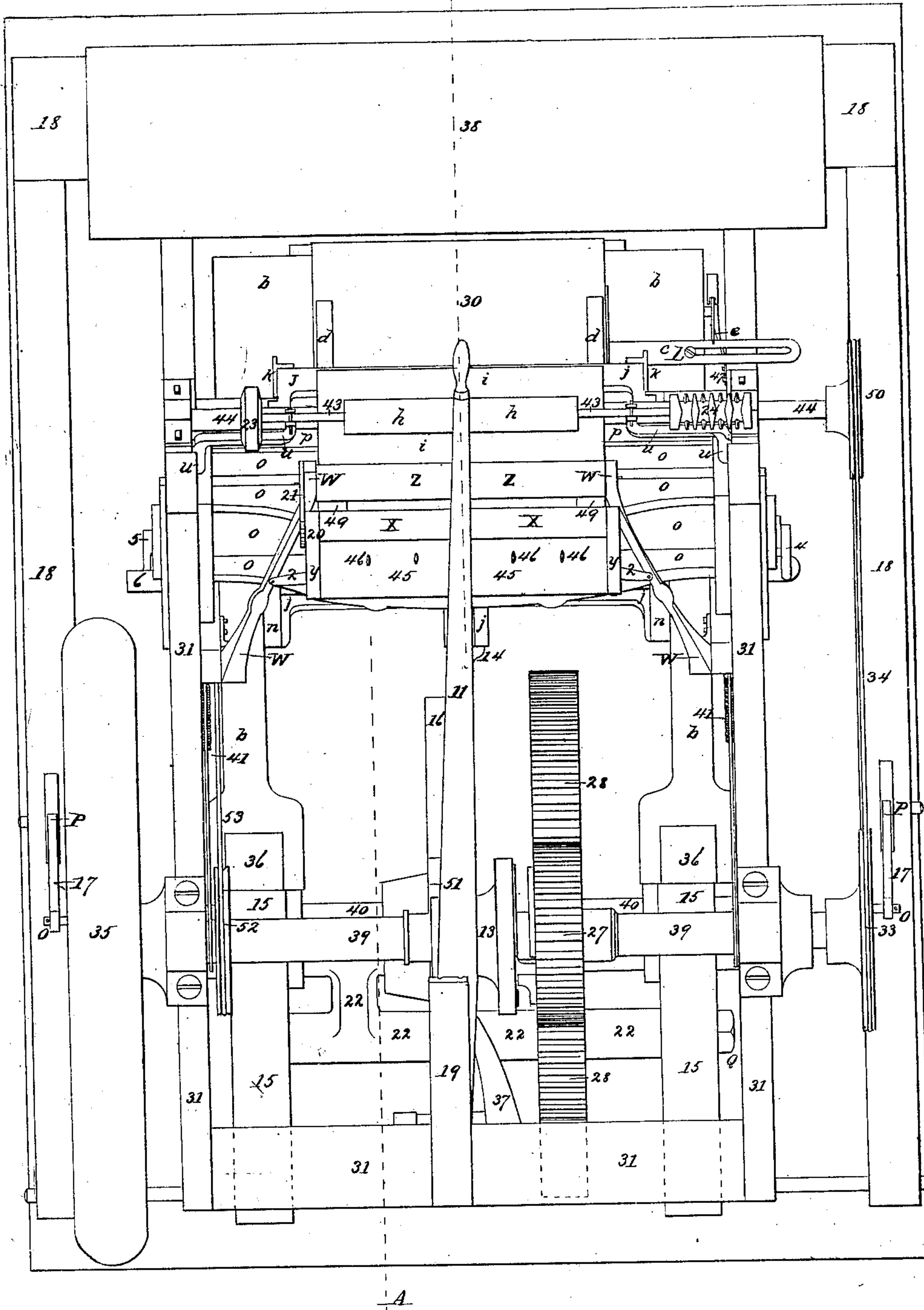


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No. 9,606.

Patented Mar. 8, 1853.

B Fig. 5.

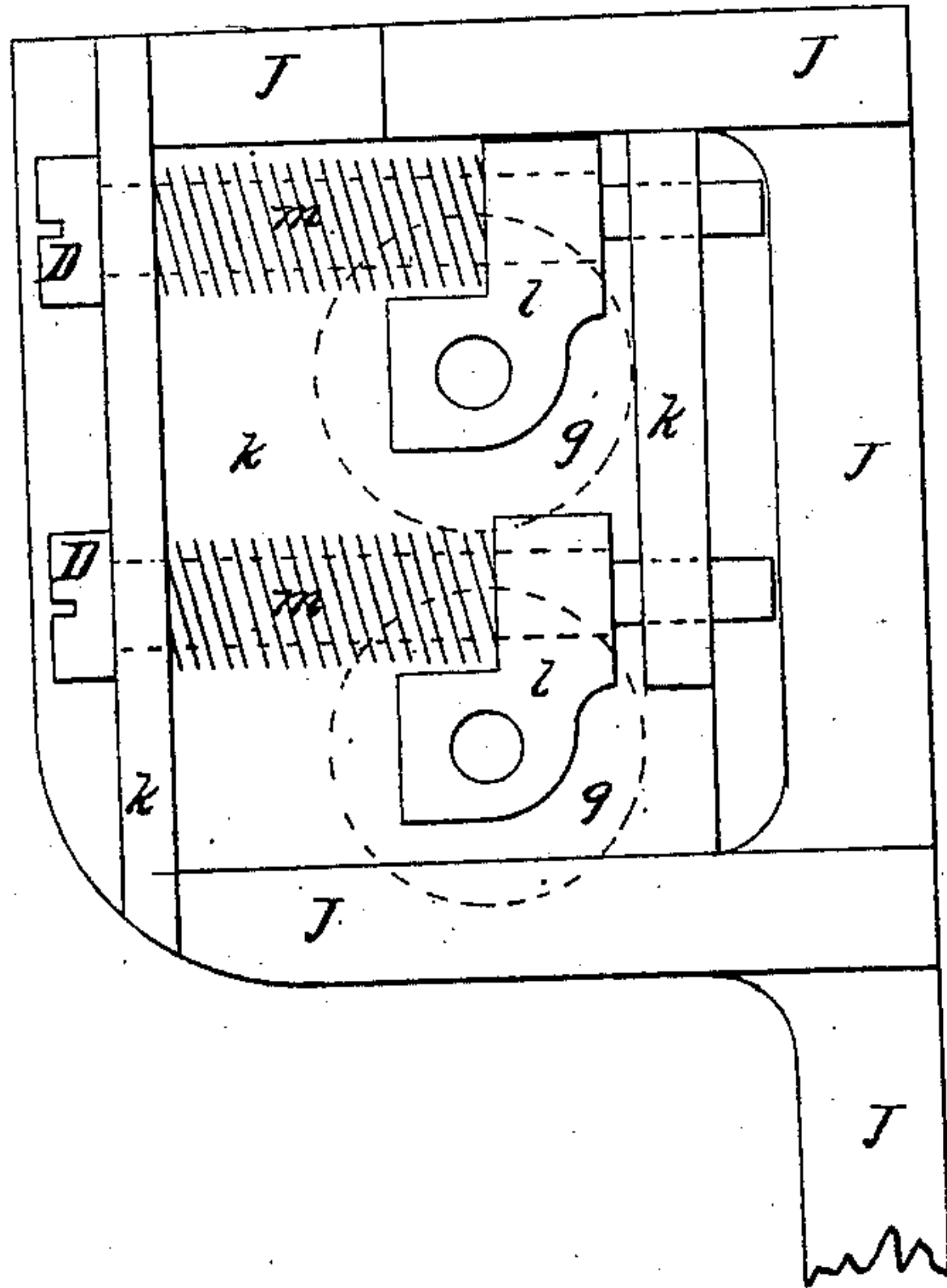


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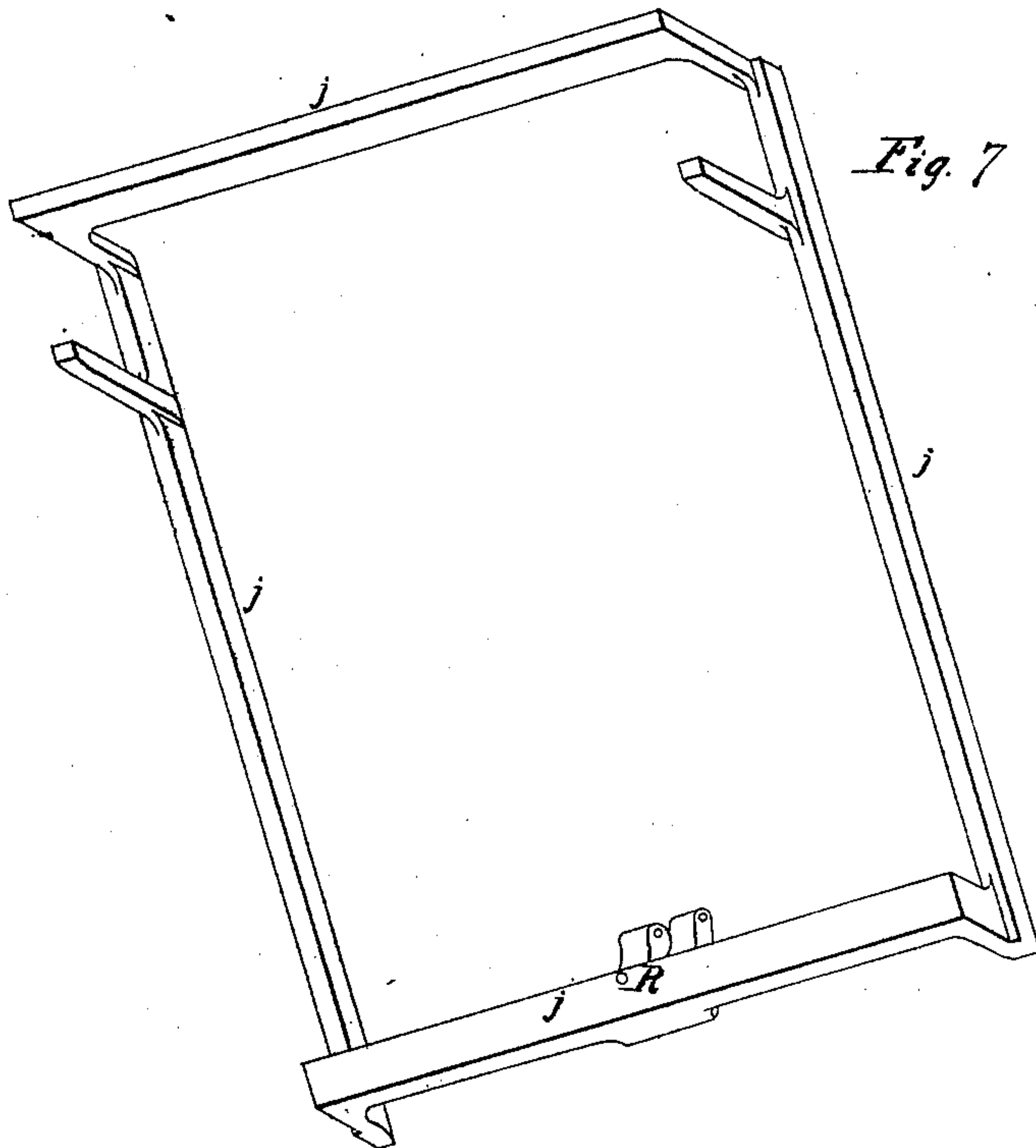
No. 9,606.

Patented Mar. 8, 1853.

*Fig. 6*



*Fig. 7*





# UNITED STATES PATENT OFFICE.

SETH ADAMS, OF BOSTON, MASSACHUSETTS.

PRINTING-PRESS.

Specification of Letters Patent No. 9,606, dated March 8, 1853.

*To all whom it may concern:*

Be it known that I, SETH ADAMS, of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Printing-Presses; and I do hereby declare the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section on A B of Fig. 5. Fig. 2 is a side elevation. Fig. 3 is a front elevation. Fig. 4 is a back elevation. Fig. 5, is a plan. Fig. 6 a detached view of ink roller boxes, and upper part of ink roller frame. Fig. 7 is a detached view of the ink roller frame.

The several parts of the press are designated by figures and letters, the same figures or letters referring to the same parts in each drawing.

In Fig. 1 the colored parts of the drawing indicate the parts cut in the section.

35 is the fly wheel attached to the driving shaft 39, to which shaft is attached pinion 29. This pinion gives motion to the main spur wheel 28. This spur wheel is fixed on main shaft 40, to which two impression cams 15, 15, are fixed, also cam 16, for moving the inking rollers over the type.

22, is an arm on main shaft, through which and the bosses 22' 22' runs bolt Q to connect the spur wheel and cams together, also for the purpose of securing them firmly to main shaft.

33 is a grooved pulley fixed to the driving shaft, for the purpose of driving inking cylinder *i*, which cylinder is driven by belt 34 and grooved pulley 50.

44 is shaft of inking cylinder. On this cylinder is placed the vibrating ink distributing roller *h*, *h*, which is fixed on shaft 43, and supported in its place, by the crooked stands or boxes *u*, *u*. The vibration is given to this ink distributing roller, by the right and left threaded screw 24 and tooth X.

23 is a weight to counterbalance the weight of the right and left threaded screw.

Z is the feed inking roller, which is supported in its place by the journals at its ends being fitted to the ink levers W, W. These levers have a set screw A fitted into the ends of their arms at B. When the platen *b* comes up it strikes against the set screws A, A, (there being one screw in

each lever) thereby moving the ink levers, which levers carry the feed inking roller Z against the fountain roller X, where it receives ink from the fountain *y*. When the platen *b* returns the levers W, and feed inking roller Z follows it until the latter strikes against the ink cylinder *i*, where it is held by spring 2, until it is moved again by the platen *b*, for the purpose of communicating the ink it has received from the fountain *y*, to the inking cylinder *i*. From cylinder *i* the ink is taken to the ink rolls *g*, *g*. These rolls *g*, *g*, are moved up and down over the type *s* and to the cylinder *i* by cam 16 by friction roll 51 and lever 14, said lever being connected to the ink roller frame *j* by the link C. Said ink rollers are supported in their places by their journals being fitted to the roller boxes *l*, *l*.

*k* is the case for roller boxes; *m*, springs to keep the rollers *g* *g* against the type and cylinder *i*; D, D, screws, on which are springs *m*, and boxes *l*, *l*. By turning said screws the ink rollers *g* *g* may be made to press lighter or harder against the types *s* and cylinder *i* as may be required. *n*, *n* are guides for the ink roller frame *j*.

49, 49, are stands for the fountain *y*.

*y*, is the fountain into which the ink is put.

45 is the ink scraper; 46 screws, by turning which, the scraper is brought nearer to or more distant from the fountain roll *x* as may be required in order to give out the proper quantity of ink. The fountain roll *x* is turned a little by the pawls 21 taking into the ratchet 20 in the fountain roller every time the feed inking roller Z is brought against the fountain roll X.

52 is a grooved pulley fixed to the driving shaft 39, for the purpose of carrying the "take off" rollers. The band 53 leading from said pulley, turns roll *f*. Bands E, E, E, E, E, running from *f* to G, G, are to turn rolls G G and give direction to the paper into box K as it comes from the platen and passes between rollers G, G.

7 is a gage against which the paper is placed, for the purpose of registering it. This gage is put upon rod 42 and rests upon the platen *b* during the time platen *b* is at rest, and while *b* is going up to give the impression to the sheet; but when said platen returns to its place of rest, said gage is caught by the catch 10, and held suspended till the paper which has been



printed on the platen *b* is carried downward by the motion of the tympan cloth to the two rolls *G, G*, when it is taken between them and carried to the box *K*. When the ink roller frame *j* moves up, the projection *R* on cross bar *j'* of said frame strikes catch 10 and disengages gage 7, when said gage is drawn down to its place on the platen *b* by spiral spring *S, S*. This operation is shown more particularly in Fig. 8. When it is again ready to receive a sheet against it to give it register this operation is shown more particularly in Fig. 8 on the same sheet with Fig. 1. In order to carry the sheet down to the rolls *G, G*, the tympan cloth 30 on the platen *b* is moved downward as follows, viz: The tympan cloth 30 is connected to the segment *a*, by belts. This segment is on shaft *M*. When the impression has been given and the platen *b* is returning to its place, catch 47 catches into ratchet *e*, thus turning shaft *M*, and segment *a*, and giving motion downward to the tympan cloth 30, which cloth carries the sheets with it to the "take off" rolls *G, G*, between which rolls the sheet is taken and conveyed to box *K*.

48 is a spiral spring on shaft *M*, to bring tympan cloth back to its place. *c*, is a gage against which to put the paper to register it. This gage is held to the platen *b* by screw *L*, and can be moved in the slot, to conform to different sized sheets, by turning the screw *L* and then moving the gage as required.

1, 1, are two arms fitted to driving shaft 39. They make a frame to hold roll *f* and swing on their centers to hold bands *E, E, E, E*, tight. These arms are held down by spiral springs 41.

*d, d*, are two holders to hold the paper on the platen *b*, while it is being printed, and to draw it off the types after it is printed. Said holders are on rod 42 and made movable so as to conform to any sized sheet, by means of set screws in their ends, which are screwed against a flat place on the rod. In order that these holders shall not interfere with putting the sheet upon the platen *b*, they stand as represented in drawing Fig. 1, where they are kept by the arms 5 striking against stop 6. When the platen goes up, it strikes against these holders, and carries them up with it. When the platen *b* returns, the said holders follow with it and are kept sufficiently hard against the platen to keep the sheet in its place, by arm 4 on rod 42, and the spiral spring 3.

*r*, is the chase in which the type is locked. This chase is keyed to bed *p* by key *t*.

*s* is type; *p* the bed. The bed is screwed to the cross-piece *o, o, o, o*, by screw 25. In order to adjust the bed and give more or less impression, four set screws, 26, 26, 26, 26,

are screwed into the cross-piece *o, o, o, o*, the ends of which screws set back against the bed. When these screws are turned the impression is augmented or diminished as circumstances may require. To keep the bed firmly against the ends of these screws, spring 27 is put under the head of screw 25.

38 is a table, on which to put the paper, it is screwed to each of the arms of the frame 31, 31, 31.

The platen *b* has two arms in the ends of which are friction rollers 36, 36. Said platen is hung on centers *N, N*. It is moved from its place of rest, represented in Figs. 1 and 2, and brought up against the type and the impression given, by the two cams 15, 15, on the main shaft.

18 is a treadle; 17, 17, connecting rods, which are attached to fly wheel and pulley by crank pins *O, O*, and to treadle at *P*.

37 is a spring to bring ink roller frame *j* back or down and keep friction roller 51 against cam 16.

31 is the frame to which all the machinery is attached.

11 is a hand-lever, for stopping the impression of press. This lever has on it fork 12 which fits into the groove on clutch 13, said clutch is fitted to driving shaft 39, with a spline to prevent it from turning on said shaft. When this lever is moved to the right, it disengages clutch 12 from a corresponding clutch on pinion 29 and leaves the pinion on driving shaft, free or loose so that the spur gear and cams can stop.

Operation: This press is operated by first having the ink rollers *z, z, h, h, i i* covered with elastic composition in the usual manner, and then putting them in their respective places, for operation, as represented in drawing Fig. 1. Then put the ink into the fountain *y*, and adjust the fountain scraper 45, so as to let out a proper quantity of ink, by the set screws 46, 46; then place the blank paper on the table 38, prepare the blankets and tympan cloth, on platen *b*, and put on a tympan sheet. Next put upon the platen, the sheet to be printed and adjust the sheet holders *d, d*, to the margin of the sheet, and the size of the form; also adjust the gages *c* and 7 to give the sheet register. This being done, adjust the impression by screws 26, 26, and then commence printing by putting the fly wheel 35 in motion, by the treadle 18. Thus the whole machine is put in operation, by the rotary motion of the fly wheel, which is fixed to the driving shaft 39, viz:—by communicating motion from pinion 29, which is on driving shaft 39 to spur wheel 28 which is on main shaft 40, and to which are fixed two impression cams 15, 15 thus giving these cams a rotary motion, their surface running against friction rolls 36, 36, which are in the arms of the platen *b*, and



causing by their rotary motion the platen to turn on its center *N, N*, and move up to the type and give the impression, and then recede back to its place, as represented  
 5 in Figs. 1, and 2, where it rests about one third of the revolution of the spur wheel 28, to give time to put on another sheet, when it (the platen *b*) is moved up again as before; and by giving rotary motion to  
 10 grooved pulley 33 on the driving shaft, and communicating the same to the inking cylinder *i* by the belt 34, which also gives motion to ink rolls *h* and *z*, thus distributing the ink to be transferred to the ink rolls *g, g*,  
 15 and from thence to the type, by the reciprocal motion of the ink roller frame *j* and by communicating rotary motion to ink roller cam 16 on main shaft 40, said cam being shaped so as to move the ink roller  
 20 frame *j*, containing the ink rolls *g, g* up to the inking cylinder *i* to receive the ink, where they remain till the impression is given, and then are moved down, by the assistance of the spring 37, over the types  
 25 to ink them, and back again to receive more ink, and by giving rotary motion to grooved pulley 52, on said driving shaft, and communicating it by belts *E, E, E, E* to the rollers *G, G*, and by band 53 to the roller *f*.  
 30 After the sheet has been printed, as before stated, and when the platen *b* is going back, to its place of rest, to receive another sheet, the catch 47 takes into ratchet *c*, which turns segment *a*, and thus moves the tympan cloth,  
 35 on which is the printed sheet, downward, and conveys it to the "take off" rolls *G, G*, between which it is taken and carried into box *K*. Said tympan cloth is carried back to its place of rest by spiral spring 48.  
 40 If by any mistake the sheet should be put on to the platen wrong, and the press required to be stopped, to prevent the impres-

sion being given, or from any other cause the impression is required to be stopped, this is done by moving lever 11 and disengaging clutch 12. 45

Having thus described my improvement in printing presses, I shall state my claims as follows:

What I claim as my invention and desire 50 to have secured to me by Letters Patent is—

1. The combination of said vibrating platen—with the sheet holders arranged as herein above specified, so as to be kept up 55 a little distance from the platen when in position to receive the sheet—and moving with said platen to the form,—in order to hold the sheets thereon and draw them from the types, also with the gages for registering the sheets. 60

2. I also claim the mode or means herein above described for keeping the sheet holders up from the platen when the sheet is to be placed, said means consisting of an arm 65 on each end of the rod (on which said holders are fixed) and with which they turn, and stops against which said arms strike, the arrangement and operation being substantially as herein above set forth. 70

3. I also claim the apparatus for delivering or taking off the sheets from the platen after it is printed, consisting of the moving or sliding tympan cloth, in combination, with the turning segment *a*—to which an 75 intermittent and reciprocating rotary motion is imparted by catch 47 and ratchet *c*, and spiral spring 48, operating as above specified.

SETH ADAMS.

Witnesses:

EZRA LINCOLN,  
 JOSEPH GAVETT.