

Nov. 7, 1933.

H. A. W. WOOD

1,933,887

LATE NEWS PRINTING MACHINE

Original Filed April 15, 1930 7 Sheets-Sheet 1

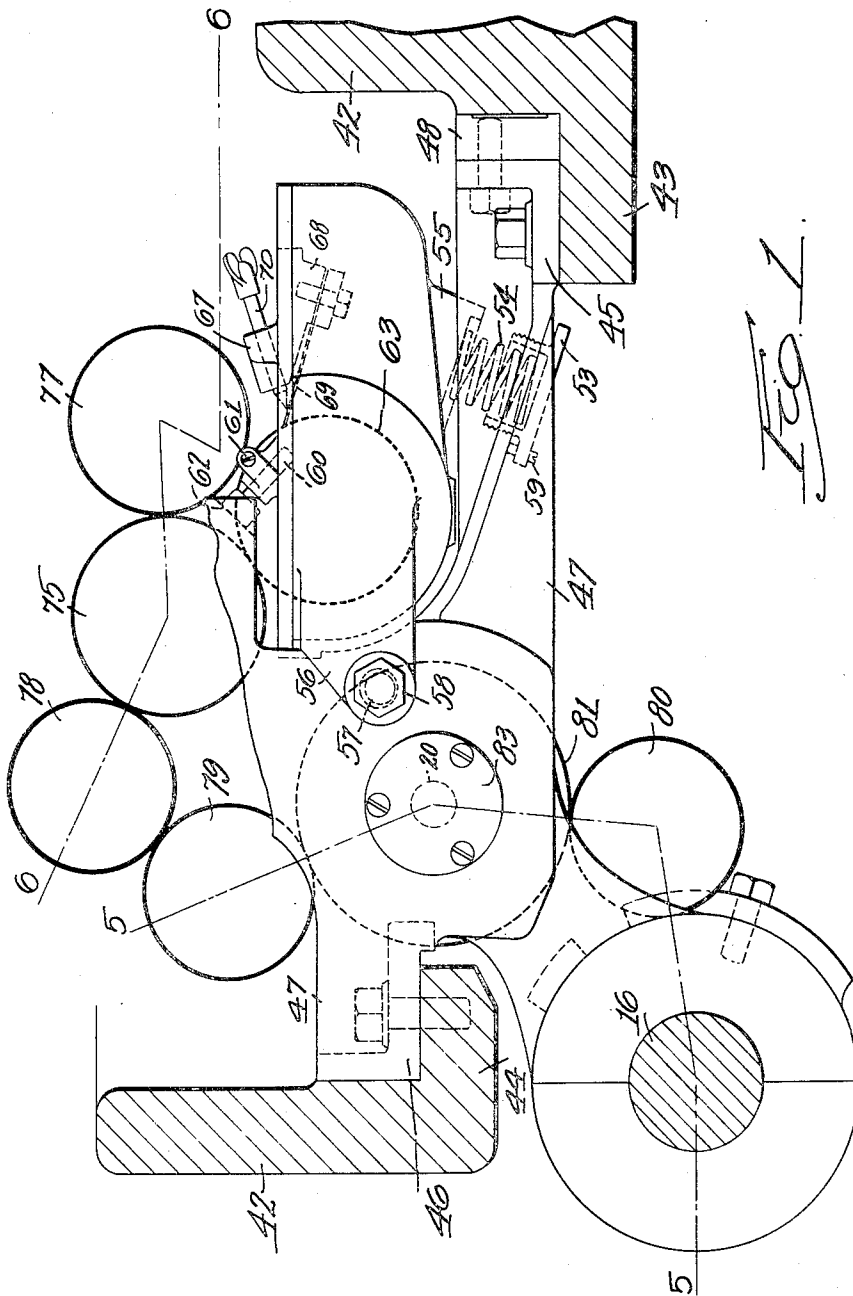


FIG. 1.

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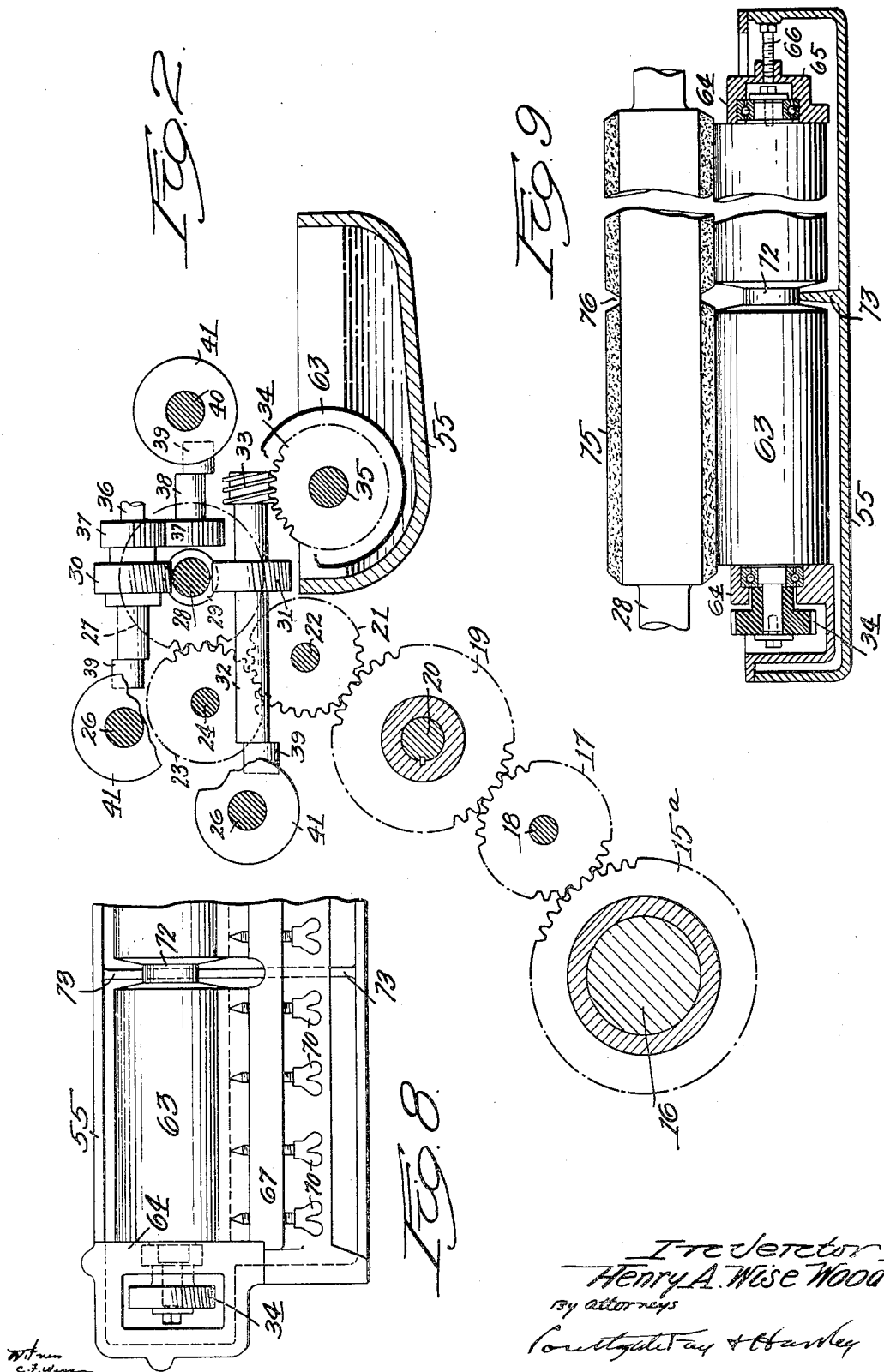
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LATE NEWS PRINTING MACHINE

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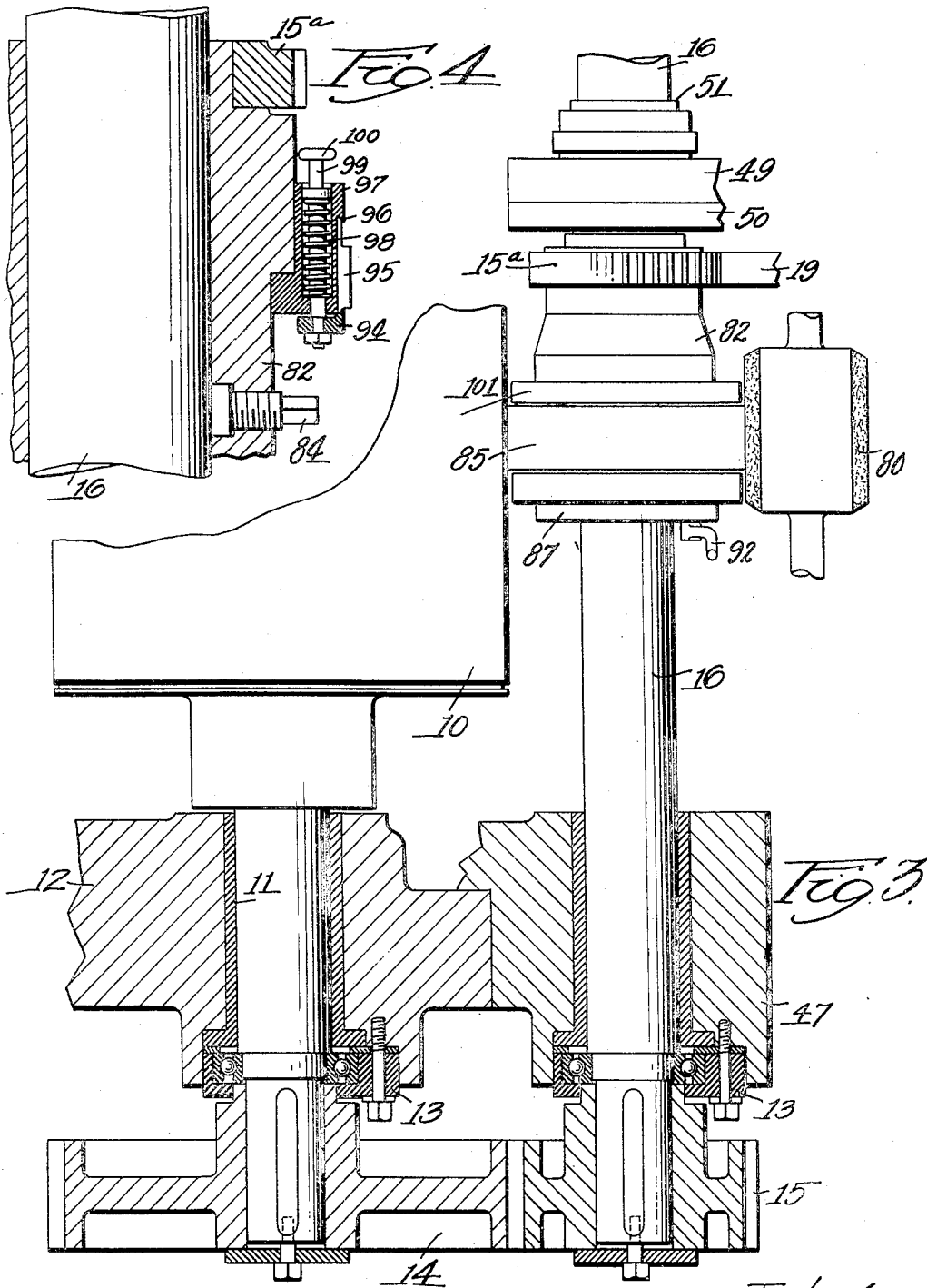
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LATE NEWS PRINTING MACHINE

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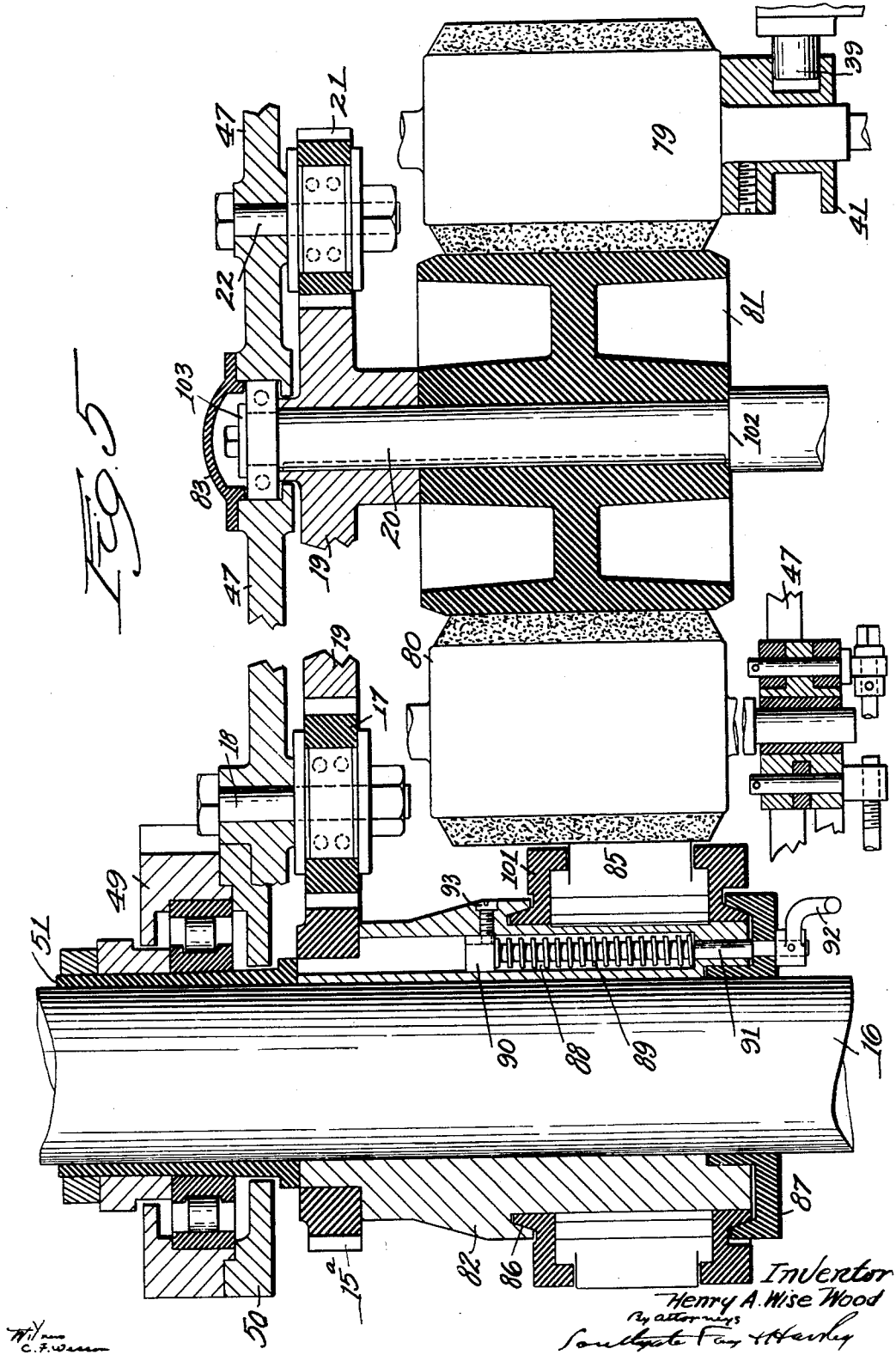
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LATE NEWS PRINTING MACHINE

Original Filed April 15, 1930 7 Sheets-Sheet 4



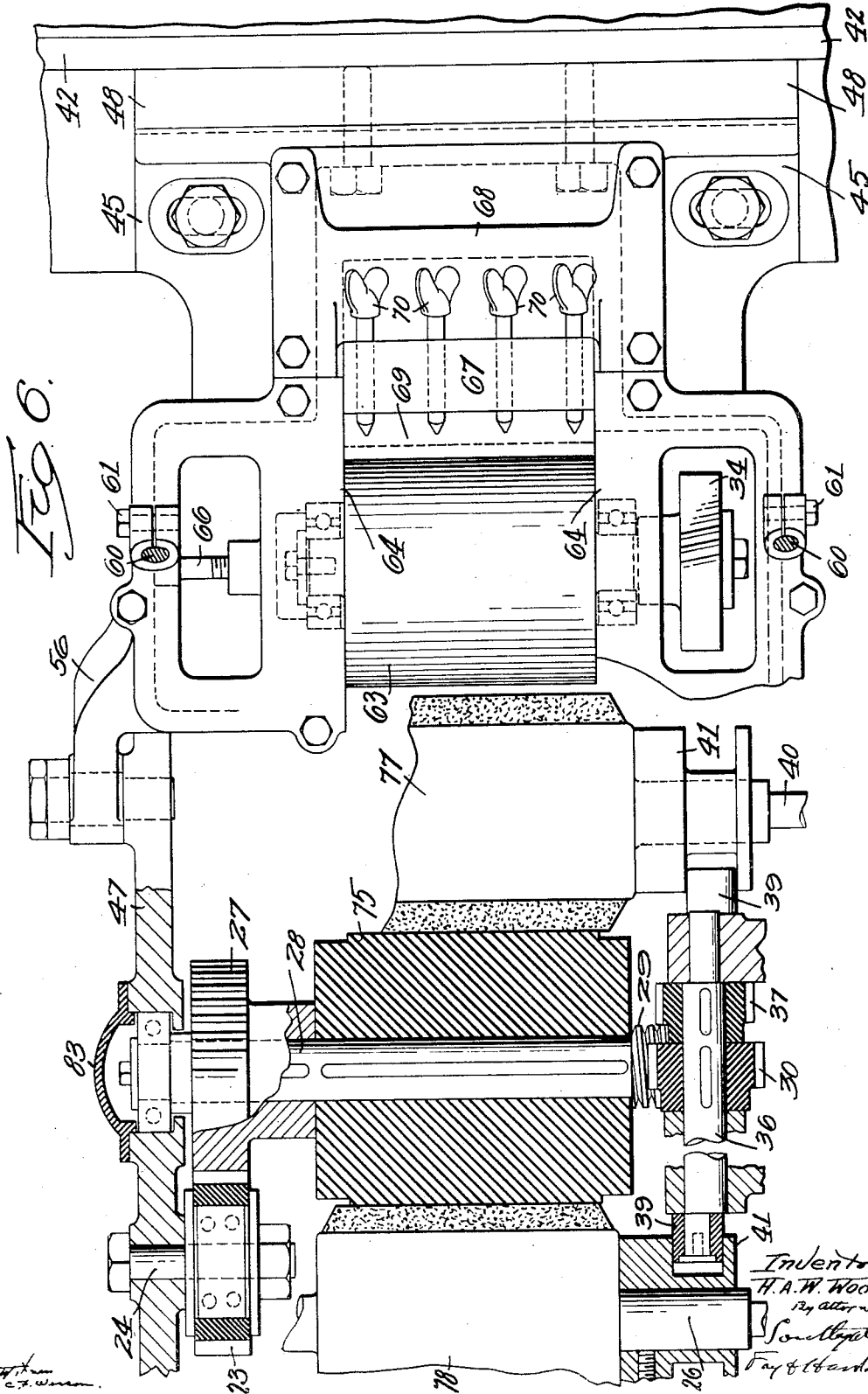
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LATE NEWS PRINTING MACHINE

Original Filed April 15, 1930 7 Sheets-Sheet 5



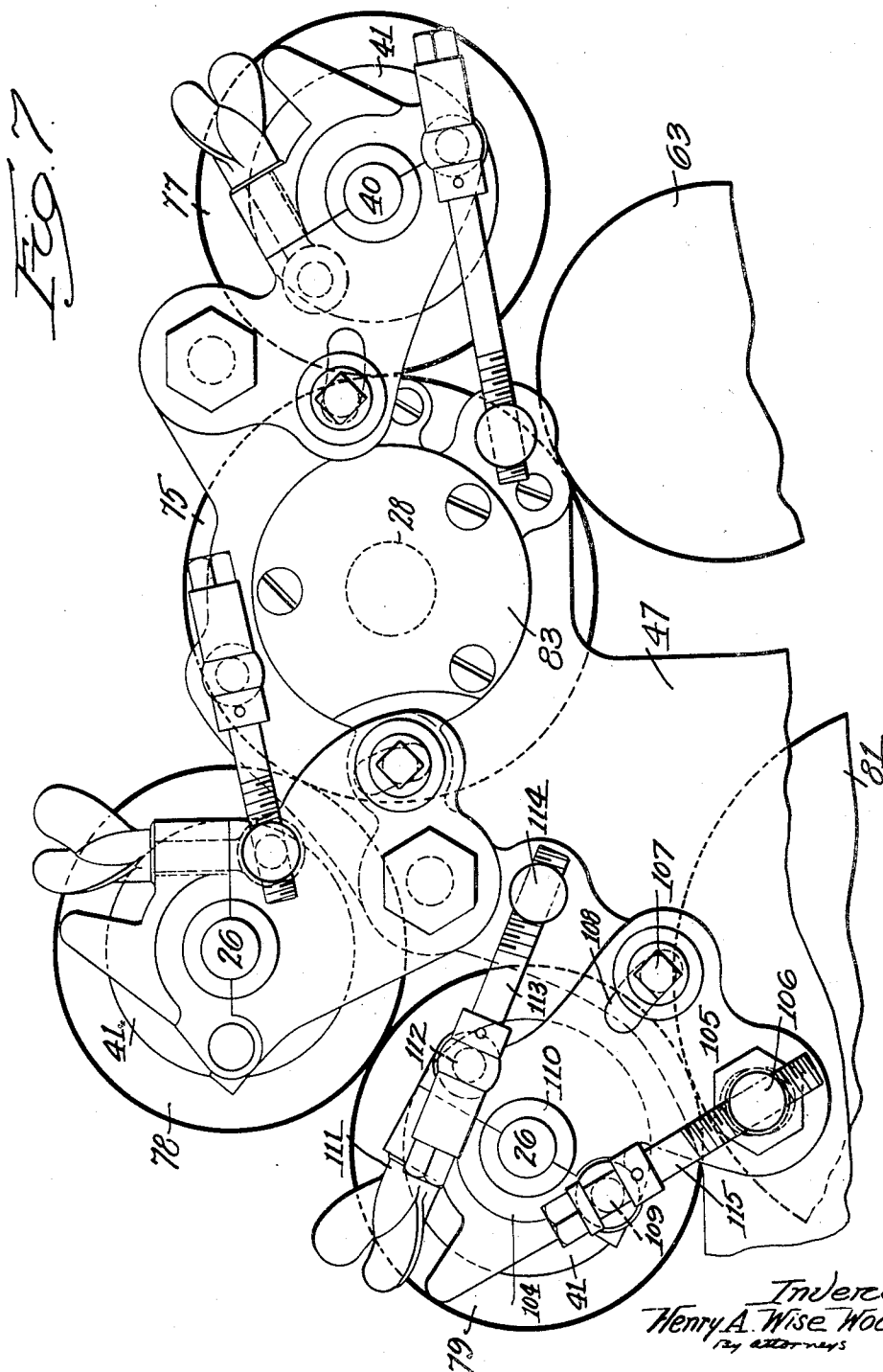
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LATE NEWS PRINTING MACHINE

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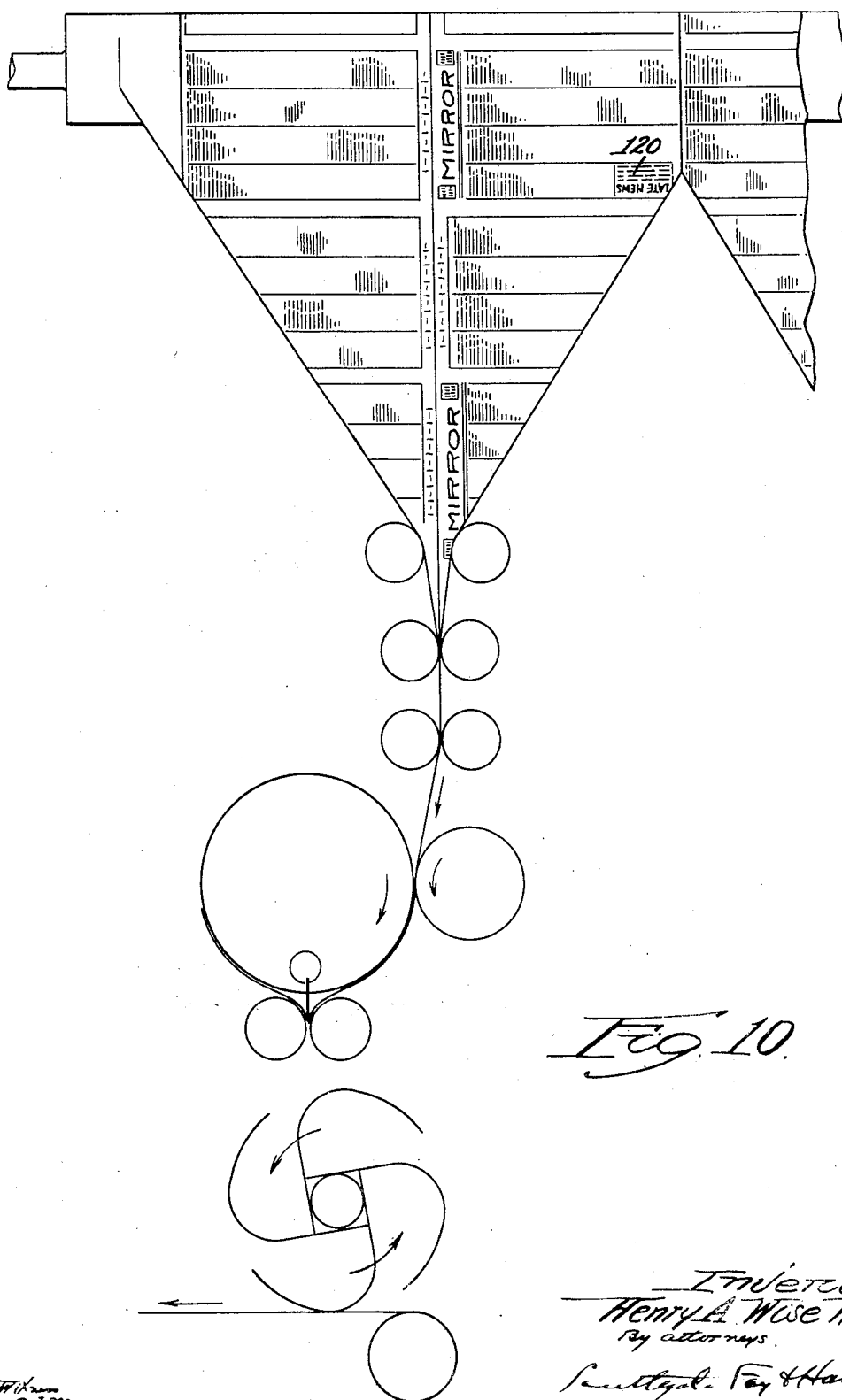
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LATE NEWS PRINTING MACHINE

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7 Sheets-Sheet 7



UNITED STATES PATENT OFFICE

1,933,887

LATE NEWS PRINTING MACHINE

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Application April 15, 1930, Serial No. 444,422

Renewed April 8, 1933

7 Claims. (Cl. 101—351)

This invention relates to a machine for printing news that comes in while the paper is going through the printing press.

The principal objects of the invention are to provide novel means for inking the printing cylinder and to provide improved means for carrying and supporting the various rolls of the inking mechanism as a removable unit.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which

Fig. 1 is a side view mainly of the inking mechanism showing the fudge type cylinder in end elevation;

Fig. 2 is a similar view showing the gearing only;

Fig. 3 is a horizontal sectional view through the center of the type cylinder and impression cylinder showing the drive;

Fig. 4 is a sectional view through the center of the printing cylinder shaft showing one form of the means for holding the fudge blocks in position;

Fig. 5 is a developed sectional view on the broken line 5—5 of Fig. 1 showing a preferred form of means for holding the fudge block;

Fig. 6 is a developed sectional view on the broken line 6—6 of Fig. 1;

Fig. 7 is a side view of a part of the inking mechanism showing it more in detail than Fig. 1;

Fig. 8 is a plan of a part of the ink fountain;

Fig. 9 is a sectional view of the same on the line 9—9 of Fig. 2, and

Fig. 10 is a side view showing the paper being delivered over the former to illustrate a position in which the present machine can print the late news.

The invention is used with a full sized impression cylinder 10 mounted in bearing sleeves 11 on the frame 12 of the press and driven from the press in any usual way. The bearings of this cylinder are shown as provided with eccentric take-ups 13 for adjustment to prevent chatter in the bearing as it wears. On the end of the shaft 11 is a gear 14 meshing with a gear 15 on the type cylinder shaft 16. A gear 15a on the shaft 16, through a gear 17 on a stud 18, drives a gear 19 on the ink drum shaft 20. The gear 19 through a gear 21 on a stud 22 drives a gear 23 on a stud 24. Meshing with the gear 23 is a gear 27 on a pick-up roll shaft 28. These shafts are carried by a single detachable frame 47.

On the shaft 28 is a worm 29 meshing with two worm wheels 30 and 31. The worm wheel 31 is on a shaft 32 which is provided with a spiral gear

33 meshing with a spiral 34 on the fountain roll shaft 35 and driving the same.

It may be stated here that the worm wheel 30 is mounted on a shaft 36 which, by gears 37, drives another shaft 38. On the shafts 32, 36 and 38 there are eccentrics 39 which serve the purpose of vibrating spools 41 on the transfer roll shafts 26 also on the spray catcher roll shaft 40. In this way the entire drive of the inking mechanism is provided for from the type cylinder shaft 16 and these three rolls are vibrated.

The frame 42 of the printing press is provided with cross braces 43 and 44 on which are bolted pads 45 and 46, each constituting a part of the frame 47 of the inking mechanism. A removable block 48 is bolted to the pad 45 to facilitate removing or installing the unit. This frame 47 is detachable and it carries with it the shafts of the ink distributing system, which can be removed with the frame 47 as a unit.

At the opposite end the frame 47 is supported not only on the cross brace 44 but also is provided with a semi-circular shape at this end for engaging a roller bearing socket 49 and a cap 50 of a similar shape fits the semi-circular part of the frame which butts against it.

The socket 49 carries the outer race of a roller bearing and the inner race is constructed to fit on the wedge-shaped split adapter 51 carried on the type cylinder shaft 16. Two special lock nuts are used to force the inner race up the incline of the split adapter to make a firm fit and clamp the adapter to the shaft. The use of a roller bearing allows for longitudinal adjustment. In this way the frame 47 is accurately supported at both ends.

The frame 47 near the extreme end, is provided with a cup plate 53 screwed into an opening in it and adjustable by turning it. On this is a spring 54 which enters a recess in the bottom of the ink fountain 55 and tends to hold this end of the ink fountain up with yielding pressure. The other end of the ink fountain is provided with two arms 56 both of which are pivoted on the frame 47. The stud on one arm is concentric while that on the other carries an eccentric bushing 57 and a clamping bolt 58. By loosening this bolt and turning the bushing a very accurate paralleling of the fountain roll and pick-up roll 75 is provided for. The spring 54 holds the fountain roll up against the pick-up roll with a yielding pressure and a clamping screw 59 is provided and will press against the frame 47 and prevent any random movement. Adjustment of the fountain roll toward and

from the pick-up roll in conjunction with the pressure of the spring 54 is accomplished by adjusting screws 60. These screws are carried in split lugs with clamping screws 61 on each end of the fountain bearing against abutments 62 on the frame 47.

The fountain roll 63 is mounted by ball bearings in ends 64 arranged to press against the ends of the roll to keep the ink from escaping through the bearings. The end bearings 65 are secured to the fountain. One of these is bolted solidly to the fountain in such position that the gears mesh properly. The proper pressure on the ends of the roll is secured by a jack screw 66 between the outer end and the fountain. These ends 64 are provided with projections which rest on the top of the fountain. The fountain back 67 is secured to the fountain and carries a plate 68 for clamping one edge of the fountain blade 69. The position of the other edge is regulated by screws 70 having wing ends. They regulate the opening between the fountain roll 63 and the blade 69 and thus control the thickness of the film of ink carried up by the surface of the fountain roll.

This fountain roll may be of the usual continuous type, as shown in Fig. 6, but when it is desired to employ two different types of ink with a single distribution system the fountain roll is provided with a groove 72 around the circumference fitting against a semi-circular wall 73 in the back of the fountain which separates the fountain into two parts in which two different kinds of ink can be employed. This is shown in Figs. 8 and 9.

Bearing against the fountain roll is the pick-up roll 75 on the shaft 28. This pick-up roll is divided like the fountain roll by a groove 76 around it and without further description it may be stated that all the soft surfaced rolls all the way through the system are divided in the same way when it is desired to feed two kinds of ink, thus preventing the mixing of the two kinds. This is an additional feature and the rest of the invention can be carried out without it.

On the shaft 40 is a spray catcher roll 77. Transfer rolls 78 and 79 are mounted on the shafts 26. The rolls 77, 78 and 79 are vibrated by the means previously described. A single form roll 80 is employed. The transfer rolls 78 and 79 contact with each other and one of them with the pick-up roll 75, the other with the ink drum 81 on the shaft 20. The form roll of course as usual engages the ink drum and also the type cylinder 82 on the shaft 16. These various rolls and cylinders are all mounted in ball bearings and the ends of their shafts are provided with caps 83 to keep out the dust.

The ink drum 81 is held in place on its shaft 20 by a key or the like, and is forced against a shoulder 102 on the shaft by pulling up a clamping washer 103 through the inner race of its ball bearing and gear 19. The ball bearings on the ink drum shaft at both ends are seated in counter bores in the frame 47.

The soft surfaced rolls 77, 78, 79 and 80, all have both ends mounted in the usual adjustable bearing boxes or sockets 105 carrying removable caps 104. They are all mounted and adjusted in similar ways except that the rolls 77 and 78 need only one adjustment while the rolls 79 and 80 need two as they contact with two rolls or cylinders. With this exception, therefore, a description of one will apply to each of these rolls

77, 78, 79 and 80. Each of the sockets 105 is loosely pivoted on a stud 106 on the frame 47. It is held in adjusted position by a clamping screw 107 passing through a curved slot 108. Thus the roll, as for example 79, can be turned about the fixed center 106 and secured in adjusted position. On this socket member 105 is pivoted a cap 104 on a poppet 109. The socket member and cap carry a split bearing metal sleeve 110. A winged nut on a screw 111, pivoted on a poppet 112, clamps the cap in position. An adjusting screw 113 is adjustably held in an oscillatable but stationary poppet 114 and the poppet 112. The screw 113 moves the socket 105 and roll 79 toward and from the roll 78.

In a similar way an adjusting screw 115 is carried by the poppets 106 and 109, the former of which is mounted on the frame 47. Thus adjustment of the socket 105 to and from the ink drum 81 is provided. The two adjustments are not parallel; therefore the proper setting of this roll with respect to the two rolls or cylinders with which it must contact is secured. Then the screw 107 is tightened up.

The type cylinder 82 is adjustably mounted on the shaft 16 and is clamped in adjusted position by a locking screw 84. The fudge block 101 carrying the type 85 is held between an internal beveled or conical surface 86 on the type cylinder and a similar surface on an end clamp 87. In order to provide the necessary pressure for holding the clamp 87 against the fudge block the cylinder 82 is provided with a deep recess 88 in which is seated a spring 89 having a head 90 freely movable in the outer or larger part of the recess. Secured to this head is a rod 91 with an operating handle 92 on the end beyond the clamp 87. This handle is fixed to the rod and the hub of the handle presses against the clamp with the force of the spring and holds the clamp in position. The handle can be pulled back to release the clamp. A screw 93 is used to secure the rod and therefore the clamp in fixed position to avoid accidental displacement.

The fudge block may extend all or a part of the way around the cylinder and the cylinder is constructed to permit of a complete cylindrical fudge. The clamp 87 surrounds the shaft and constitutes a complete circle.

In Fig. 4 another form is shown for securing the desired results where a small design, as for example a star or a number of stars, is employed for designating different editions. In this case the general construction shown in Fig. 5 is employed but for a small arc or periphery a construction like that shown in Fig. 4 is used. A small bevel clamp 94 clamps the printing member 95 against a beveled edge 96 on the holder 97. Pressure is maintained on this clamp by means of a spring 98 on a rod 99 having a handle 100 for operating it. This handle permits the pushing of this rod against the spring pressure to release the end clamp 94. This affords a quick and convenient means for this purpose. In either case the means for holding the type is clamped between beveled surfaces.

The manner of printing will be obvious from Fig. 3 in which the fudge block is the printing member of a printing couple in which the impression cylinder constitutes the other member. The inking has been described. Fig. 10 shows a newspaper passing over the former, the late news portion, printed by this machine, being illustrated at 120.

It will be seen that the fudge block is inked

by the complete ink distributing system so that the printing will be done substantially as well as the rest of the newspaper. This device constitutes a complete press as far as the inking and printing is concerned, performing the necessary functions. The parts are easily adjustable and the ink is supplied to it in such a manner that it is thoroughly distributed and evenly applied. The various cylinders and soft surfaced rolls are firmly supported without introducing undue friction, adjusted in a simple way and the parts fully protected.

Although I have illustrated and described one form of the invention with only a slight modification, I am aware of the fact that other modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims.

Therefore I do not wish to be limited in this respect but what I do claim is:

1. In an inking device for a printing machine, the combination with a main frame having cross braces, a frame for the inking device provided with pads adapted to be bolted to said cross braces to support the inking device and a removable block located between one of the pads and the first named frame and detachably mounted to facilitate installing and removing the frame of the inking mechanism.

2. In an inking device for a printing machine, the combination with a fountain provided with ends, anti-friction bearings in the said ends, a fountain roll having its studs mounted in said bearings, one of said ends being adjustable, both of said ends being adapted to bear against the ends of the fountain roll and means for applying pressure to the adjustable end to keep the ink from escaping through the bearings.

3. In an inking device for a printing machine, the combination of a frame, a fountain having opposite arms pivoted on said frame, one of said arms being adjustable to change the line-up of the fountain, a fountain roll carried by the fountain, a pick-up roll against which the fountain roll is adapted to engage and yielding means for forcing the fountain about its pivot toward the pick-up roll.

4. In an inking device for a printing machine, the combination of a frame, a pair of studs at

opposite sides of the frame, a fountain having arms pivoted on said studs, one of said studs being eccentric to provide for adjustment in the line-up of the fountain, a fountain roll carried by the fountain, a pick-up roll against which the fountain roll is adapted to engage, yielding means for forcing the fountain about its pivots toward the pick-up roll, and adjusting screws at the sides of the fountain for adjusting the fountain and fountain roll bodily toward and from the pick-up roll.

5. In an inking mechanism for a printing machine, the combination with a fixed frame, of an ink fountain pivotally mounted on said frame at one end, yielding means for supporting the other end of said ink fountain from the frame, means for adjusting the pressure of the yielding means, a fountain roll in the ink fountain, and a pick-up roll mounted in stationary bearings on said fixed frame against which the fountain roll bears, whereby the yielding means forces the fountain roll against the pick-up roll.

6. In an inking mechanism for a printing machine, the combination with a fixed frame, of a pick-up roll carried in stationary bearings in said frame, a fountain pivoted at one end below the pick-up roll, a fountain roll in the fountain engaging the pick-up roll, yielding means for forcing the fountain in a direction to cause the fountain roll to bear against the pick-up roll and means for adjusting one side of the fountain toward and from the pick-up roll to properly line up the fountain roll with the pick-up roll.

7. In an inking device for a printing machine, the combination with the main inking cylinders, of soft surfaced rolls in contact therewith, a frame on which the bearings of said rolls are supported, a socket member pivotally mounted on said frame, means for clamping the socket member in adjusted positions about its pivot, a cap for the socket member pivotally mounted thereon, a bearing for the soft surfaced roll carried by the socket member and cap, two adjusting screws between the socket member and the frame for adjusting the socket member in two different directions and means connected with one of said screws for fastening the cap to the socket member.

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