Jan. 21, 1930. E. BOISSEAU ET AL 1,744,204

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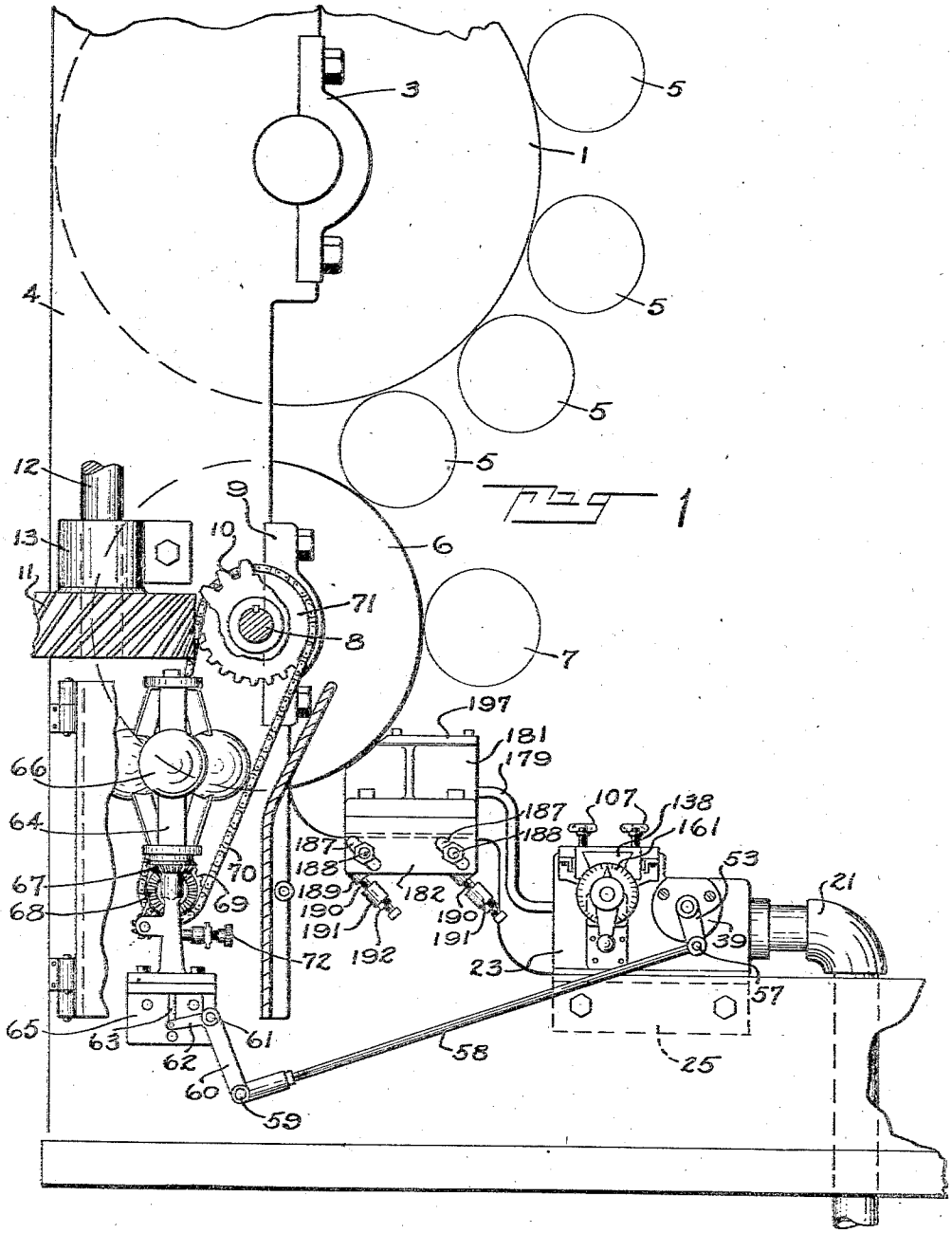


Fig 1

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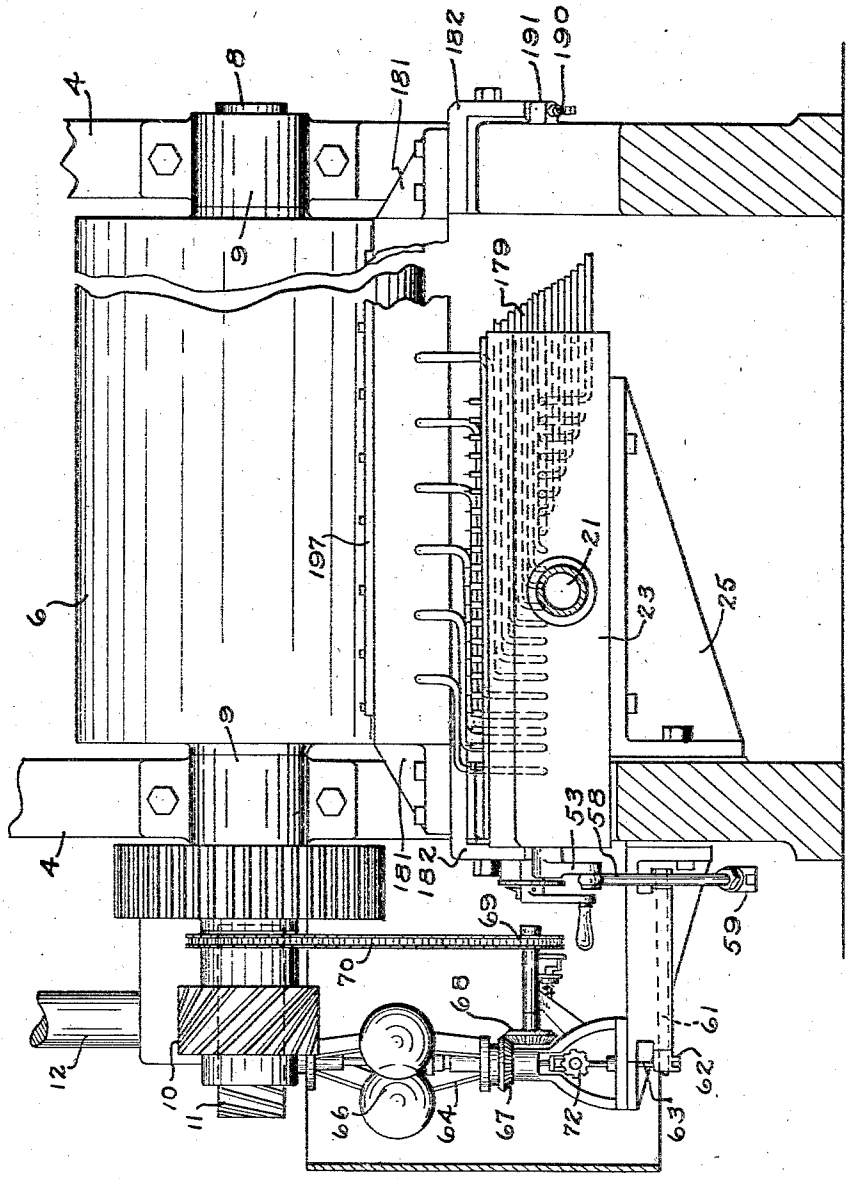


FIG. 2

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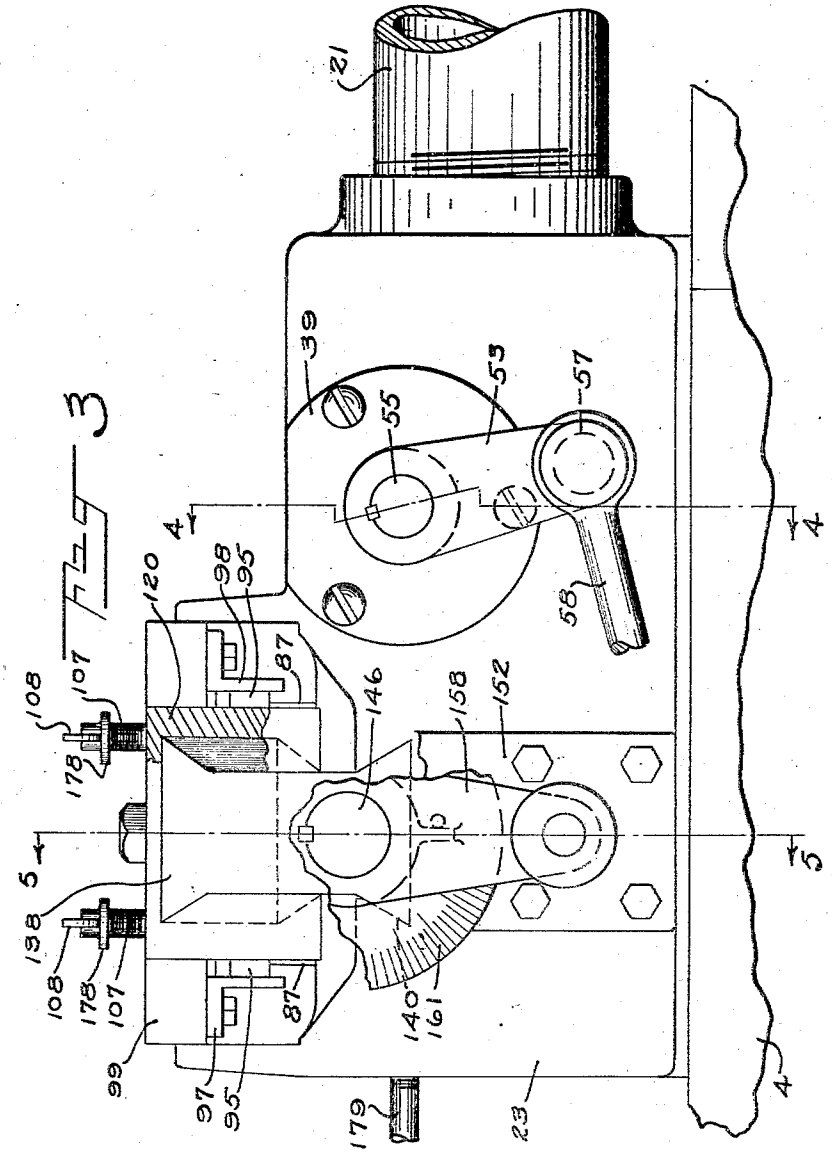


FIG. 3

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Jan. 21, 1930. E. BOISSEAU ET AL 1,744,204

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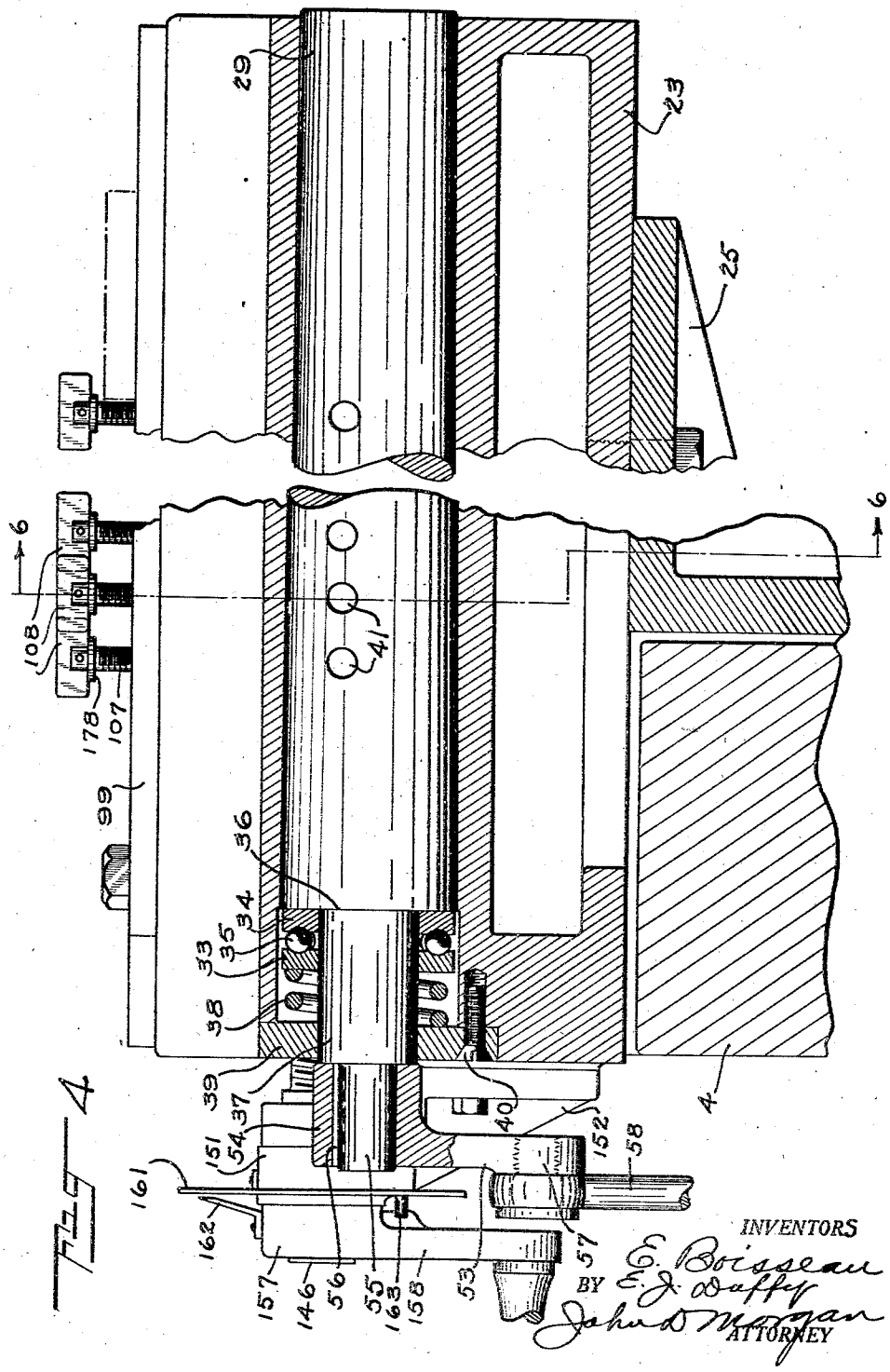


FIG. 4

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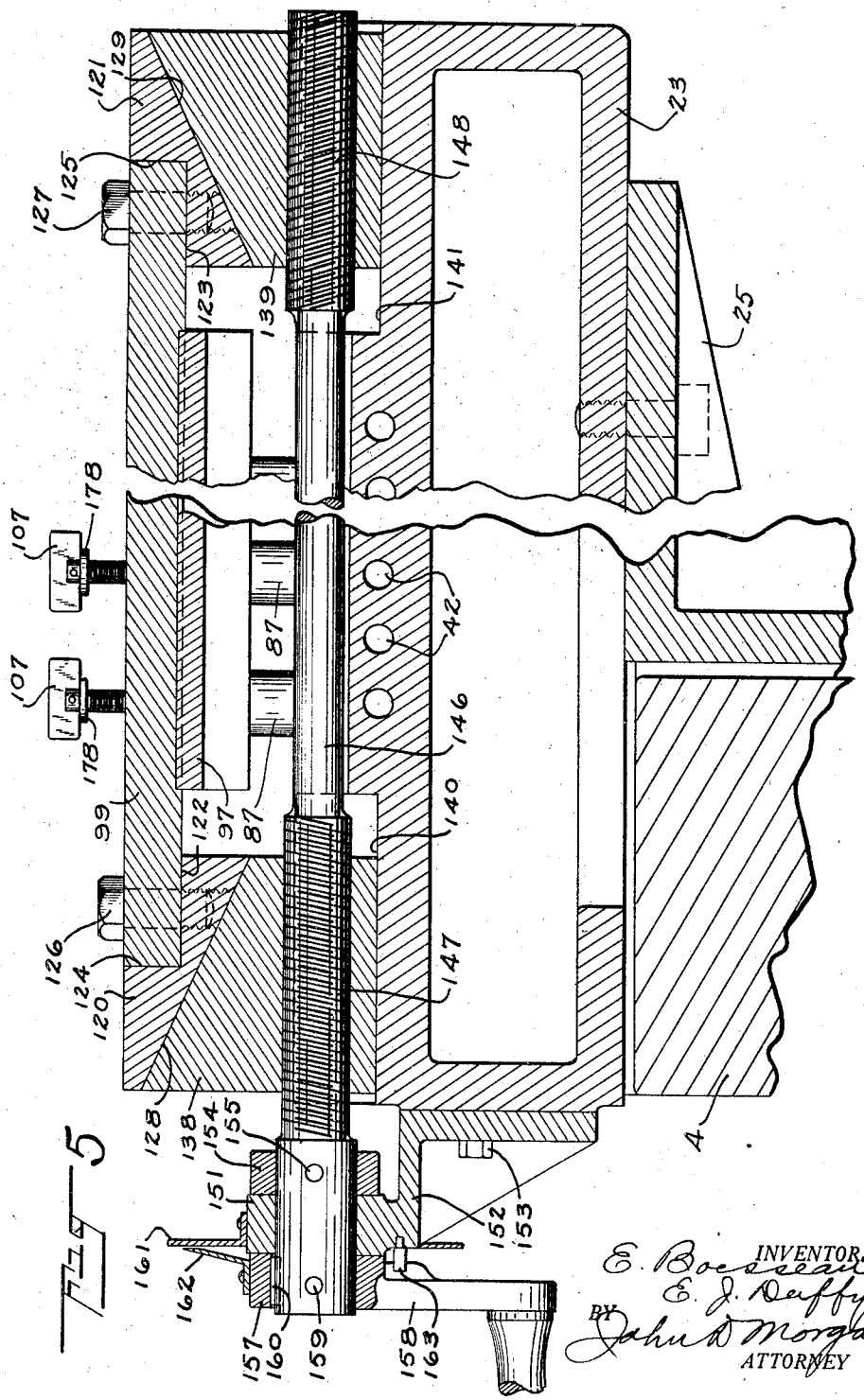


FIG. 5

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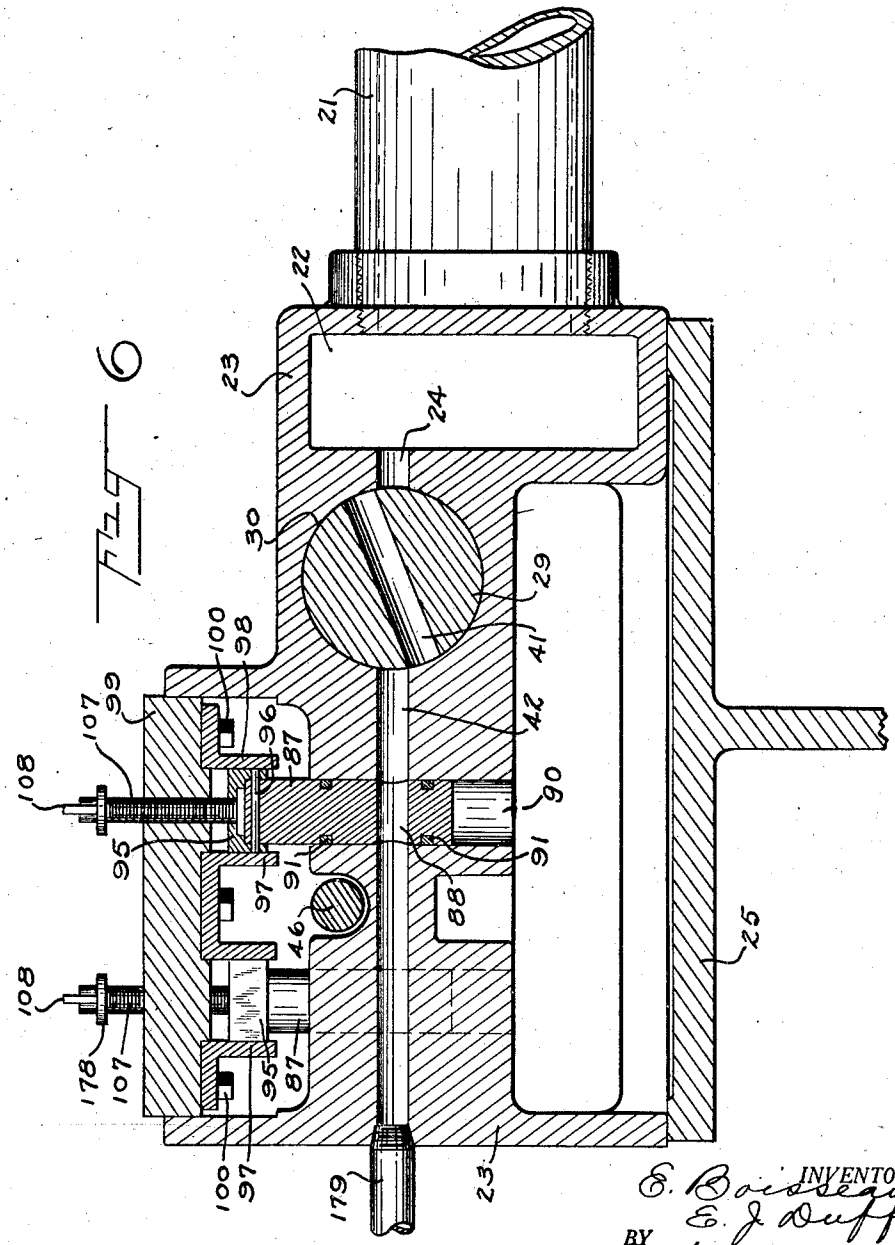


FIG. 6

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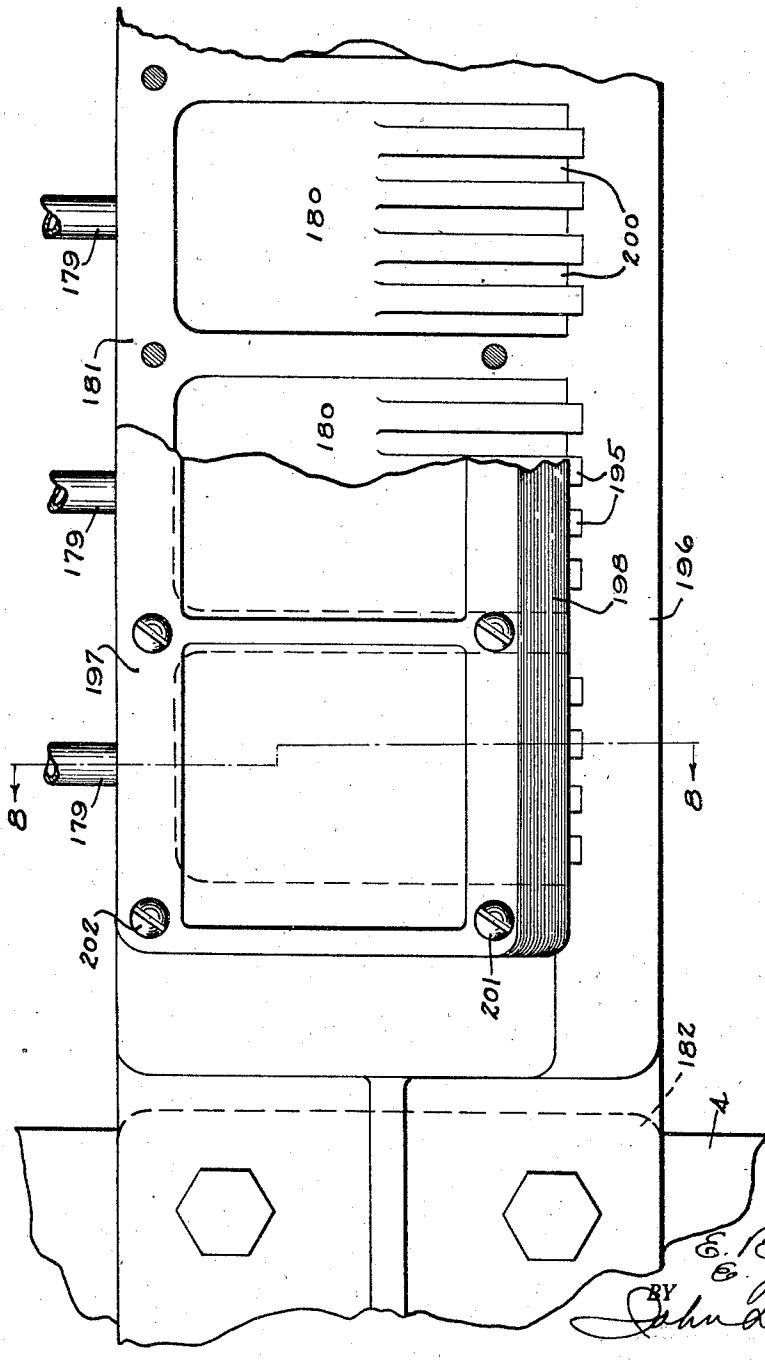


FIG. 7

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Filed Aug. 17, 1926 8 Sheets-Sheet 8

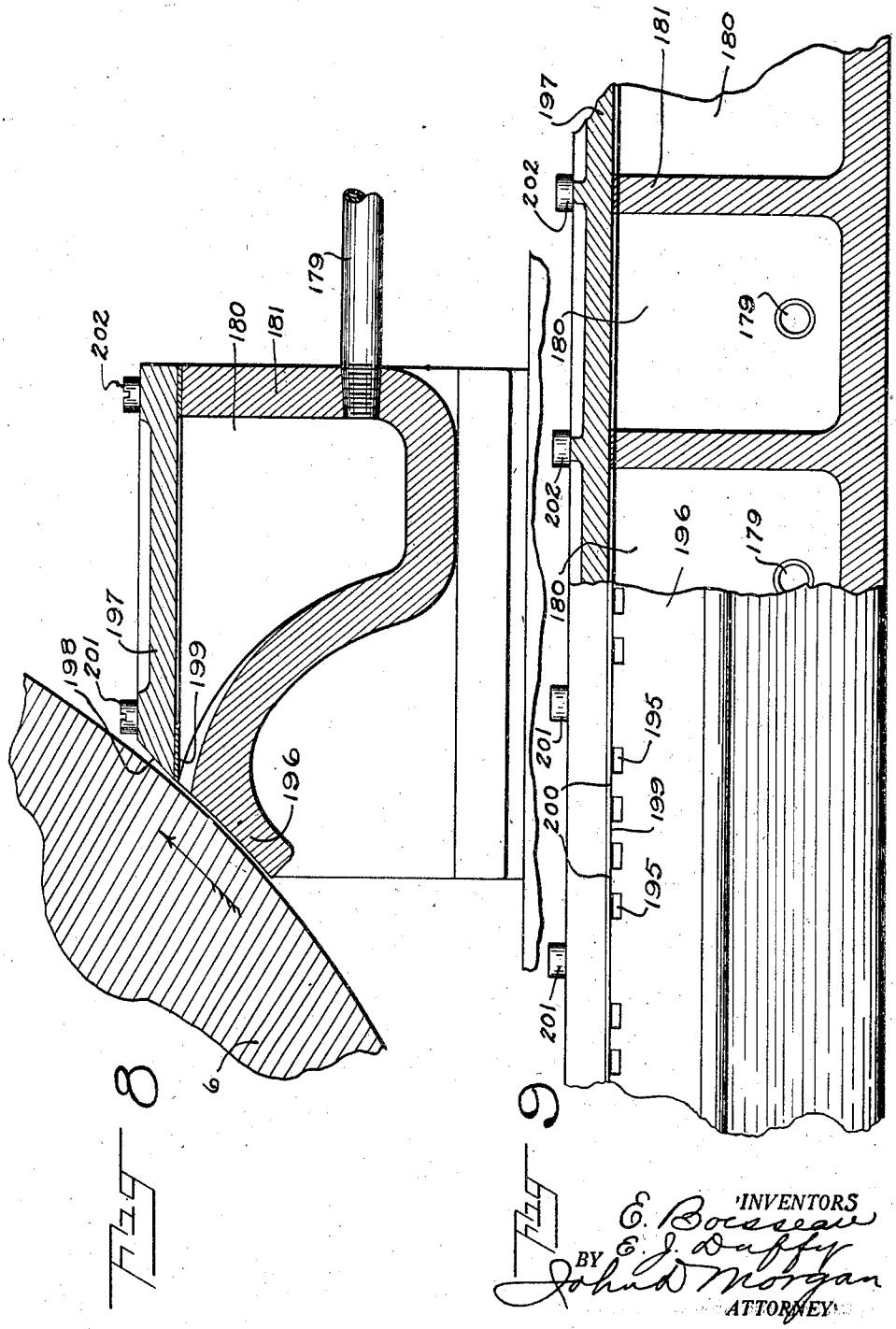


Fig. 8

Fig. 9

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Patented Jan. 21, 1930 1,744,204

UNITED STATES PATENT OFFICE

EDMOND BOISSEAU AND EDWARD J. DUFFY, OF NEW YORK, N. Y.

PRINTING PRESS

Application filed August 17, 1926. Serial No. 129,673.

The invention relates to printing presses, and more particularly to a novel and useful inking mechanism for fast rotary presses.

Objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice with the invention, the same being realized and attained by means of the instrumentalities and combinations pointed out in the appended claims.

The invention consists in the novel parts, constructions, arrangements, combinations and improvements herein shown and described.

The accompanying drawings, referred to herein and constituting a part hereof, illustrate one embodiment of the invention, and together with the description, serve to explain the principles of the invention.

Of the drawings:—

Fig. 1 is a fragmentary elevation of a rotary printing press inking mechanism embodying the invention;

Fig. 2 is a side elevation, looking at Fig. 1 from the right;

Fig. 3 is a fragmentary elevation, greatly enlarged of the lower right-hand part of Fig. 1;

Fig. 4 is a fragmentary, vertical, transverse section, taken on the line 4—4 of Fig. 3;

Fig. 5 is a fragmentary, vertical, transverse section taken on the line 5—5 of Fig. 3;

Fig. 6 is a fragmentary, vertical, longitudinal section, taken on the line 6—6 of Fig. 4;

Fig. 7 is a fragmentary top plan, with parts broken away, of the ink-supplying means shown near the center of Fig. 1 and in section in Fig. 8;

Fig. 8 is a fragmentary, vertical section taken on the line 8—8 of Fig. 7; and

Fig. 9 is a detail fragmentary elevation, with parts in section, of the ink supply reservoir shown in Fig. 8.

The invention has among its objects providing a more adequate, flexible and nice regulation for the inking supply of fast rotary presses, and especially for such presses using printing plates varying widely in their characteristics and requirements as to inking. An example of such variations is found in the illustrated newspapers, which upon one part of a plate cylinder will run possibly one or more half-tones or other illustrations, and on another part of the same plate cylinder will have straight letterpress matter.

Our invention provides a very nice, exact and flexible areal control for any and all parts of all the plate cylinders so as to secure the best results under all the diverse conditions and requirements of fast newspaper printing. Means are provided for this purpose which are manually settable or regulable and having this adaptability in cooperative relation with other setting and regulating means, both automatic and manual.

It will be understood, however, that while our invention finds one of its chief fields of usefulness in fast rotary presses, it is both applicable and extraordinarily efficient with other kinds of presses and printing.

The invention is directed further to providing a general regulation and control of the inking mechanism and the ink supply to adapt them for use with different kinds or qualities of printing paper which may be used on the press. Such general or universal regulation, of the ink supply to fit the quality of paper used is capacitated to cooperate with the regional or areal control of the ink supply for all parts or areas of the various plate cylinders or other printing surfaces requiring different amount of inking.

There is further provided by the invention means cooperating with, and functioning simultaneously with, the controlling and regulating means already described, which automatically regulates and controls the ink supply to correspond to the speed of the press.

Other objects and advantages of the invention will be primarily set forth later herein in connection with the detailed description of the present preferred embodment of the invention.

The invention comprises among its principal instrumentalities, in the present preferred embodiment, a source of ink supply under regulable pressure, adapted to give a continuous and uniform primary supply. This supply, which may be primarily regulated as stated, is further subjected to the con-

trol and regulation of a mechanism in speed responsive relation to the press. This mechanism automatically increases the ink supply proportionately with increases in the press speed, and automatically decreases it proportionately to decreases in the press speed.

In sequential relation to the foregoing are devices for effecting a very nice and varied feed or regulation of the ink to different areas upon the plate cylinder, dependent on the needs or requirements of the particular kind of stereotype plate or other printing surface on the particular area of the plate. In conjunction therewith there is also provided a manual regulation, which cooperates with, while leaving undisturbed, the regional regulating mechanism just described and which also cooperates with the press-speed-governed regulating devices (likewise already described). This manual regulation is adapted to regulate the entire mechanism for the quality or kind of paper being run through the press.

The invention provides further means for applying the ink supply resulting from the various governing and regulating devices to an ink-distributing cylinder, which may be the same as or similar to the corresponding device in the ordinary inking mechanism usually provided for fast rotary presses.

It will be understood that the foregoing general description of the invention, and the following detailed description thereof as well, are exemplary and explanatory of the invention, but are not restrictive thereof.

Referring now in detail to the embodiment of the invention, illustrated by way of example in the accompanying drawings, the invention is shown applied to a rotary printing press of the newspaper type, and is further shown as utilizing a part of the usual or standard inking mechanism for such presses. In the drawings (Figs. 1 and 2) the plate cylinder 1 of a rotary printing couple is journaled at 3 in the machine frame 4.

Cooperating with the plates on cylinder 1 are the form inking rollers 5, which may be of any desired number and form. These form rollers receive their ink from a distributing cylinder 6, having its shaft 8 journaled in the machine frame by bearings 9. One or more ink rolls 7, which may be of any known or suitable kind, cooperate with the cylinder 6. Any suitable or convenient form of drive may be provided for the cylinder 6, and as shown a spiral pinion 10 is fixed on shaft 8, and meshes with a spiral gear 11, fixed on a driving shaft 12, journaled in bearings 13 on the machine frame. The foregoing structure may be regarded as typical and may be varied as desired or as may be found most convenient or efficient.

Referring now to the details of the present preferred embodiment of our invention, a source of ink supply under pressure is provided, and this pressure may be provided by gravity, or by a pump or by air pressure, or otherwise. The supply of ink under pressure is represented in the drawings by a pipe 21, coming from the source of ink under pressure (Figs. 1, 2, 3 and 6). This pipe conveys the ink under pressure into a chamber 22, formed within a casing 23. This casing 23 is supported on one or more brackets 25 bolted to the machine frame. The chamber extends transversely and preferably horizontally, and is sufficiently long to accommodate a plurality of outlets, preferably horizontally-disposed, which convey the ink under pressure from the chamber 22 to the various regulating and controlling means later to be described.

In the present embodied form, the means for controlling the ink supply to conform proportionately to the speed of the press is next in sequence in the mechanism. In the embodied form thereof (Figs. 1, 2, 3, 4 and 6) a transverse and preferably horizontal row of outlet or exit openings 24 are provided on the opposite side of the chamber 22 from the ink supply pipe 21. These outlet openings are sufficient in number to provide the desired number or sub-divisions of independently-controlled inking areas upon the plates on the form cylinder.

Controlling the ink flow through all of the outlets 24 is a single valve mechanism, which is controlled and positioned by the speed at which the press is running. As embodied (Figs. 1, 2, 3, 4 and 6) a tapered cylinder 29 is rotatively fitted into a transversely-disposed cylindrical opening 30 in the general casing 23. The cylinder and the opening are tapered so as to always insure an ink-tight fit, while permitting easy rotative movement of the valve cylinder 29.

To further insure such tight fit and an easy rotation, the left-hand end of cylinder 29 in Fig. 4 is shouldered at 36, and a ball-bearing, comprising race plates 33 and 34, with an interposed series of balls 35, bear against the flat face of the shoulder 36 and encircle the concentric reduced shaft portion 37. A helical compression spring 38 presses against the race plate 35, and against a closure plate 39, which is fastened to the side face of the chamber 23 by screws 40. Thus the tapered cylinder 29 is impelled to a close, ink-tight fit within its conical opening by spring 38, and the ball-bearing insures free rotative movement.

A plurality of channel-ways 41, corresponding in number and position to the outlet openings 24, extend through the valve cylinder 29, and diametrically opposite the ink outlets 24 are ink conduits 42, likewise corresponding in number and position to outlets 24 and valve openings 41. Conduits 42 conduct the ink forwardly to the other regulating and controlling mechanisms. The slight

rotative movement of the valve 29 brings its valve channels 41 into more or less full registry with the outlets 24 and the corresponding conduits 42, and thereby determine the quantity and rate of flow of the ink under pressure. The position of the valve 29 is controlled correspondingly to the press speed, as will be later described.

The embodied form of means for moving and controlling the valve 29 from the rotating printing mechanism, and proportionally to the speed, comprises an arm 53, having a hub 54 fitting on the external, reduced concentric end 55 of the shaft of cylinder valve 29. Arm 53 is held angularly in position by a key 56. Pivoted at 57 to the end of arm 53 is a connecting link 58, which at its other end 59 is pivoted to an arm 60 of a bell-crank lever fixed to a shaft 61 journaled on the machine frame. The other arm 62 of the bell crank lever is fixed on shaft 61 and communicates with the spindle 63 of a centrifugal governor mechanism 64 (Figs. 1 and 2), mounted on a bracket 65 fixed on the machine frame.

This governor mechanism may be of a standard type, having the centrifugal balls 66, and driving mechanism therefor comprising intermeshing beveled pinions 67 and 68. The shaft 73 of pinion 68 is journaled in a bearing 74. Fixed on shaft 73 is a sprocket wheel 69, over which runs an endless sprocket chain 70, which runs also over a sproket wheel 71, which is fixed on the shaft 8 of the ink distributing cylinder 6.

Thus the governor speed is synchronized with that of the press. A settable positioning or regulating device 72, which may be of some standard form, may be provided for initially setting or positioning the valve 29 relatively to the governor spindle 63 in a usual manner. Thus the flow of ink under pressure through the mechanism just described is exceedingly nicely regulated in accordance with the speed of the press.

Further means are provided by our invention, cooperating with the mechanisms already described, for regulating the supply of ink to the various parts of the plate cylinder, and this local areal regulation may be as minute as possible, depending upon the structure of the mechanism, which in turn will depend upon the needs or requirements of the particular case. As embodied (Figs. 1, 2, 3, 6, 7, 8 and 9) there is a settable regulating device for the flow of ink through each of the ink conduits 42. This device preferably operates sequentially, for each of the ink conduits 42, after the general control from the press speed already described.

Referring now to the details of structure of the embodied form of said devices, a plurality of longitudinally-movable valve cylinders 87 are provided, one for each ink conduit 42. The valves 87 are arranged in two rows in staggered relation, as shown in Figs. 3 and 6, for convenience and compactness.

Each valve cylinder 87 is disposed in the path of the corresponding ink conduit 42, and moves endwise of itself and transversely to its conduit 42. Each of the valve cylinders 87 is provided with a passage 88 similar in shape to the conduits 42 and adapted to pass more or less into and out of register with the corresponding conduit 42, to control the ink flow therethrough by the longitudinal movement of the valve 87. The valves 87 are each reciprocably mounted in cylindrical openings 90 in the casing 23, and are preferably provided with gasket rings 91 on either side of the ink passage 88 to render them ink-tight.

The heads of the respective cylindrical valves 87 have attached thereto means for effecting a nice and exact longitudinal movement of the valve cylinders while preventing rotary movement thereof, so as to maintain their openings in angular alinement with the ink conduits. The heads of the valve cylinders (Fig. 6) fit within cylindrical recesses in the bottom surface of rectangular blocks 95, the cylinders being fixed to the blocks by pins 96.

The respective blocks 95 are reciprocably mounted in guideways 97 and 98 formed of angle pieces (Figs. 5 and 6), one for each row of valves, and which are fixed to the under side of a valve-plate 99, by suitable means such as screw bolts 100. The rectangular blocks 95 have rotatively attached thereto, respectively, screw-threaded rods 107, which are screw-threaded into the valve-plate 99, and are provided with suitable hand turning heads 108.

Thus each of the valves 87 is individually nicely and exactly positionable with respect to the valve-plate 99, and also with respect to every one of the other valve cylinders 87, thereby providing an independent and individual control for the ink flow under pressure through each of the respective ink conduits 42, thereby to control the ink supply to the respective relatively small areas along and around the plate cylinder. The valve-plate 99 is further positionable and controllable so as to provide a further general regulation and control of the ink supply through all the valves 87 simultaneously, without disturbing the individual regulation effected by the setting of the separate valve cylinders 87, through their respective setting screws 107, which mechanism will now be described.

One of the purposes for which a general or universal regulation of all the valves 87 together might be desired without disturbing their individual relative settings, would be to control the ink supply to suit the particular quality or kind of paper which might be run through the press. Such a regulation or control would be necessary or advantageous coincident with the areal control which

might be necessary or desirable for the different characteristics of the plates, such as the presence of half-tones and letter-press on different parts of a plate cylinder.

In the embodied form of said means for positionally controlling the valve-plate 99 (Figs. 1, 3, 5 and 6), this plate at either end thereof is seated in supports 120 and 121, the ends of the valve-plate resting upon supporting surfaces 122 and 123, and abutting on end positioning surfaces 124 and 125. The valve plate is maintained against lateral displacement by flange plates 118 and 119 projecting upwardly from the general casing. The valve-plate is attached thereto by suitable means, such as screw-bolts 126 and 127.

Each of the supports 120 and 121 is provided on its under side with beveled surfaces 128 and 129, which contact and cooperate with like surfaces on two travelable wedge-blocks 138 and 139. The wedge blocks are seated in guideways 140 and 141, formed in the structure of the general casing 23, to have longitudinal movement toward and from each other, to raise and lower the valve-plate 99, but are constrained from lateral displacement.

The embodied form of actuating and controlling means for the wedge blocks (Figs. 3, 5 and 6) comprises a screw-shaft 146, having screw-threaded portions 147 and 148, screw-threaded respectively into the blocks 138 and 139. One screw thread is left-handed and the other right-handed, so that the wedge-blocks simultaneously will approach each other or will recede from each other. The embodied means for rotating and positioning screw-shaft 146 comprises a bearing 151 in a bracket 152, bolted at 153 upon the general casing 23. A collar 154 is pinned to screw-shaft 146 by a pin 155, the collar bearing on the inner face of the journal block 151. The hub 157 of an arm 158 is fastened to the screw shaft by a pin 159 and bears on the opposite face of the journal bearing 151. A key 160 is also preferably used between the shaft and the handle.

Suitable indicating means are provided, and as embodied, a calibrated dial 161 is fixed upon the bearing block 151, and a pointer 162 is fixed upon the arm 158. A stop or positioning pin 163 may also be used in connection with the arm 158. The calibrations of the dial will furnish an approximate indication of the setting for any particular quality of paper, or any other factors affecting the printing, and the experience and observation of the pressman will be a factor in nice regulation.

Each of the screw rods 107 is preferably provided with an integral plate 178, which can be used with a gage interposed between the plate 178 and the top of the valve-plate 99 to give an initial or general setting for all of the valves 87, the individual settings for the various valves being made thereafter from these positions.

Means are provided for conducting the various regulated streams of ink under pressure to the different parts of the inking mechanism, and in the embodied form (Figs. 1, 2, 7, 8 and 9), each of the ink conduits 42 delivers ink into a pipe 179. The pipes 179 communicate with individual means for supplying the ink to a relatively small area on the inking mechanism or plate cylinder in order to maintain the regulation throughout. As embodied, the pipes 179 discharge the ink into corresponding compartments 180, of relatively narrow width in a reservoir block 181. These compartments are separated by walls 177.

The reservoir block is supported on brackets 182 so as to permit of nice and exact positional regulation, preferably in a radial direction, of the supplying reservoirs relative to the distributing cylinder 6 or equivalent device. In the embodied form of such positional regulation, the brackets 182 are provided with slots 187, disposed radially relatively to cylinder 6, and through which pass screw-bolts 188.

On the under side of each of the brackets 182 is a lug 189, having a true face, on which face abuts the ends of a screw 190, which is screw-threaded into a lug 191, formed on the machine frame, and provided with a locking nut 192. By turning the four screws 190, a very nice positional regulation of the supply reservoir relatively to the ink distributing cylinder may be secured.

The respective individual supply reservoirs terminate at their ink delivering end in narrow, horizontally-disposed passages 195, and there may be either one of these discharge passages, or a plurality thereof, for each of the individual reservoirs. As shown in the drawings, there are a plurality of these discharge openings 195 formed in the forward wall of each of the individual supply reservoirs.

Below the series of discharge orifices is a concaved lip 196, having its exterior surface curved substantially on the radius on the distributing cylinder 6, and this lip extends in the direction opposite to the rotational direction of the cylinder. This constitutes an effective seal and safeguard against leakage and spreading of the ink downwardly from the supply reservoir. A common lid or closure 197 is provided for all the individual supply reservoirs, and as embodied the lid is provided with a beveled nose 198, and a horizontal edge 199, fitting closely upon the horizontal seats 200 between the supply orifices 195. The lid 197 is held in position by suitable means, such as screw-bolts 201 and 202.

The manner of operation of the mechanism will be clear from the foregoing descriptions of the operations of each group of mechanism, but a brief resumé may be given as follows:

The ink is supplied under pressure through

the pipe 21, and the supply thereof is primarily regulated in accordance with the speed of the press by means of the valve 29, which is positionally controlled with the speed of the press by the governor mechanism. An absolute or basic relation of the ink supply to the press speed can be determined by the pressmen through the setting 72, and the further regulation will be automatically effected by the speed of the press.

To further regulate the ink supply to conform to the varying inking requirements along the plate, dependent upon the nature of the plate, as, for instance, whether halftone or other illustrational matter, or letterpress, can be effected by the individual setting of the various valves 87. Here also a common or basic setting for all of the valves 87 may be primarily effected by the use of a gage between the heads of the screws 107 and the top of the valve-plate 99. The individual setting of the screw rods to either slightly increase or decrease the supply will be a very simple matter within the skill and experience of the pressman.

Should further general regulation and control be desired, as, for instance, for a particular kind of paper run through the press, or for any other reason or factor, this can be effected immediately and with the greatest degree of nicety and correctness through the handle 158.

From all the foregoing it will be understood that a mechanism has been provided constituting an exemplary embodiment of the invention, and realizing the objects and advantages herein set forth, together with other objects and advantages. It will be understood further that departures may be made from the exact mechanism as shown and described, within the scope of the accompanying claims, without departing from the principles of the invention and without sacrificing its chief advantages.

What we claim is:—

1. A printing press inking mechanism including in combination a source of ink supply and centrifugally operated means including a plurality of valve ports controlled by the press speed for regulating said ink supply.

2. A printing press inking mechanism including in combination a source of ink supply including a valve having a plurality of ports controlled by the press speed for regulating said ink supply.

3. A printing press inking mechanism including in combination a source of ink supply and centrifugally operated means including a plurality of valve ports controlled by the press speed for regulating said ink supply and individual conduits for conducting the ink forwardly to the press from the respective valve ports.

4. A printing press inking mechanism including in combination a source of ink supply, means including a valve having a plurality of ports controlled by the press speed for regulating said ink supply and individual conduits for conducting the ink forwardly to the press from the respective valve ports.

5. A printing press inking mechanism including in combination a source of ink supply, centrifugally operated means including a plurality of valve ports controlled by the press speed for regulating said ink supply, individual conduits for conducting the ink forwardly to the press from the respective valve ports and means for further controlling the ink supply areally along the plate cylinder.

6. A printing press inking mechanism including in combination a source of ink supply, means including a valve having a plurality of ports controlled by the press speed for regulating said ink supply, individual conduits for conducting the ink forwardly to the press from the respective valve ports, and means for further controlling the ink supply areally along the plate cylinder.

7. A printing press inking mechanism including in combination a source of ink supply under pressure, a regulating mechanism therefor including a rotatable valve member having a plurality of ink passages therethrough, means for rotating the valve member, and independent conduits for conducting the ink forward from the respective ink passages in the valve member.

8. A printing press inking mechanism including in combination a plurality of ink conduits, means for supplying ink thereto under pressure, means for independently regulating the ink flow in the various conduits, and common means for simultaneously varying the ink-regulating settings of said independent regulating means without disturbing the relative regulation of ink flow by said independent regulating means.

9. A printing press inking mechanism including in combination a plurality of ink conduits, means for supplying ink thereto under pressure, a valve in each ink conduit, regulating means for each of said valves, and common independently operating regulating means for all said valves.

10. A printing press inking mechanism including in combination a plurality of ink conduits, means for supplying ink thereto under pressure, a valve in each ink conduit, manually-operated regulating means for each of said valves, and common independently operating regulating means for all said valves.

11. A printing press inking mechanism including in combination a plurality of ink conduits, means for supplying ink thereto under pressure, a valve in each ink conduit, regulating means for each of said valves, and manually-operated common independ-

ently operating regulating means for all said valves.

12. A printing press inking mechanism including in combination a plurality of ink conduits, means for supplying ink thereto under pressure, a valve in each ink conduit, manually-operated regulating means for each of said valves, manually-operated common independently operating regulating means for all said valves, and independently operating automatic means for regulating the ink flow in the conduits.

13. A printing press inking mechanism including in combination a plurality of ink conduits, means for supplying ink thereto under pressure, a valve in each ink conduit, manually-operated regulating means for each of said valves, manually-operated common independently operating regulating means for all said valves, and independently operating automatic means operating responsively to the press speed for regulating the ink flow in the conduits.

14. A printing press inking mechanism including in combination an ink supply, a plurality of ink conduits, a valve in each of said conduits, individual moving means for each of said valves, and means for moving all said valves together to regulate the ink flow through said valves.

15. A printing press inking mechanism including in combination an ink supply, a plurality of ink conduits, a plunger valve in each conduit, means for moving each valve longitudinally independently of the others, and means for longitudinally moving all the valves together to regulate the ink flow through said valves.

16. A printing press inking mechanism including in combination a source of ink supply under pressure, means controlled by the press speed for primarily regulating the supply, means for controlling the ink supply individually to areal divisions of the plate cylinder, and common independently operable means for regulating the entire supply to the plate cylinder.

17. A printing press inking mechanism including in combination a source of ink supply under pressure, means controlled by the press speed for primarily regulating the supply, means for controlling the ink supply individually to areal divisions of the plate cylinder, and common independently operable means for regulating the entire supply to the plate cylinder without disturbing the relative regulation of ink supply by said individual regulating means.

18. A printing press inking mechanism including in combination a source of ink supply, means controlled by the press speed for regulating said ink supply, individual conduits for conducting the ink forwardly to the press from said regulating means, and common independently operating means for further regulating the supply in all the conduits.

19. A printing press inking mechanism including in combination a source of ink supply, a valve controlled by the press speed for regulating said ink supply, individual conduits for conducting the ink forwardly to the press from said valve and common independently operating means for further regulating the supply in all the conduits.

20. A printing press inking mechanism including in combination a source of ink supply, means controlled by the press speed for regulating said ink supply, individual conduits for conducting the ink forwardly to the press from said regulating means, a valve in each conduit, and common means for actuating the valves to regulate the ink supply in all the conduits.

21. A printing press inking mechanism including in combination a source of ink supply, means controlled by the press speed for regulating said ink supply, individual conduits for conducting the ink forwardly to the press from said regulating means, a valve in each conduit, and common, manually operable means for actuating the valves to regulate the ink supply in all the conduits.

22. A printing press inking mechanism including in combination an ink supply, a plurality of ink conduits, a valve in each of said conduits, common supporting means for all said valves, individual moving means for varying the setting of each of said valves, and means for moving said common supporting means to simultaneously vary the setting of all said valves together.

23. A printing press inking mechanism including in combination an ink supply, a plurality of ink conduits, a valve in each of said conduits, common supporting means for all said valves, individual moving means for varying the setting of each of said valves, and independent means for moving said common supporting means to simultaneously vary the setting of all said valves together.

24. A printing press inking mechanism including in combination an ink supply, a plurality of ink conduits, a valve in each of said conduits, common supporting means for all said valves, individual moving means for varying the setting of each of said valves, and independent, manually-operable means for moving said common supporting means to simultaneously vary the setting of all said valves together.

25. A printing press inking mechanism including in combination an ink supply, a plurality of ink conduits, a plunger valve in each conduit, common supporting means for all said valves, means for moving each valve independently of the others, and means for moving said common supporting means to move all the valves together.

26. A printing press inking mechanism including in combination a source of ink supply,

a centrifugal governor running proportionately to the press speed, and means including a rotatable valve controlled by the governor for regulating the ink supply to a plurality of ports, whereby the ink supply to the press is increased when the press speed increases and is decreased when the press speed decreases, and means for further controlling the ink supply areally along the cylinder.

27. The method of controlling the ink for a printing press which comprises supplying ink from a general supply to a plurality of small streams, primarily regulating the entire supply of said streams proportionately to the speed of the press, thereafter imposing a secondary, common and simultaneous regulation upon the ink in said streams for the kind of paper being printed upon, and independently of said common regulations controlling the individual flows in said streams to satisfy the varying inking requirements at different areas of the printing cylinder.

In testimony whereof, we have signed our names to this specification.

EDMOND BOISSEAU.
EDWARD J. DUFFY.