E. J. SMITH.

INKING MECHANISM.

APPLICATION FILED NOV. 29, 1916.

1,338,044.

Patented Apr. 27, 1920.

2 SHEETS—SHEET 1.

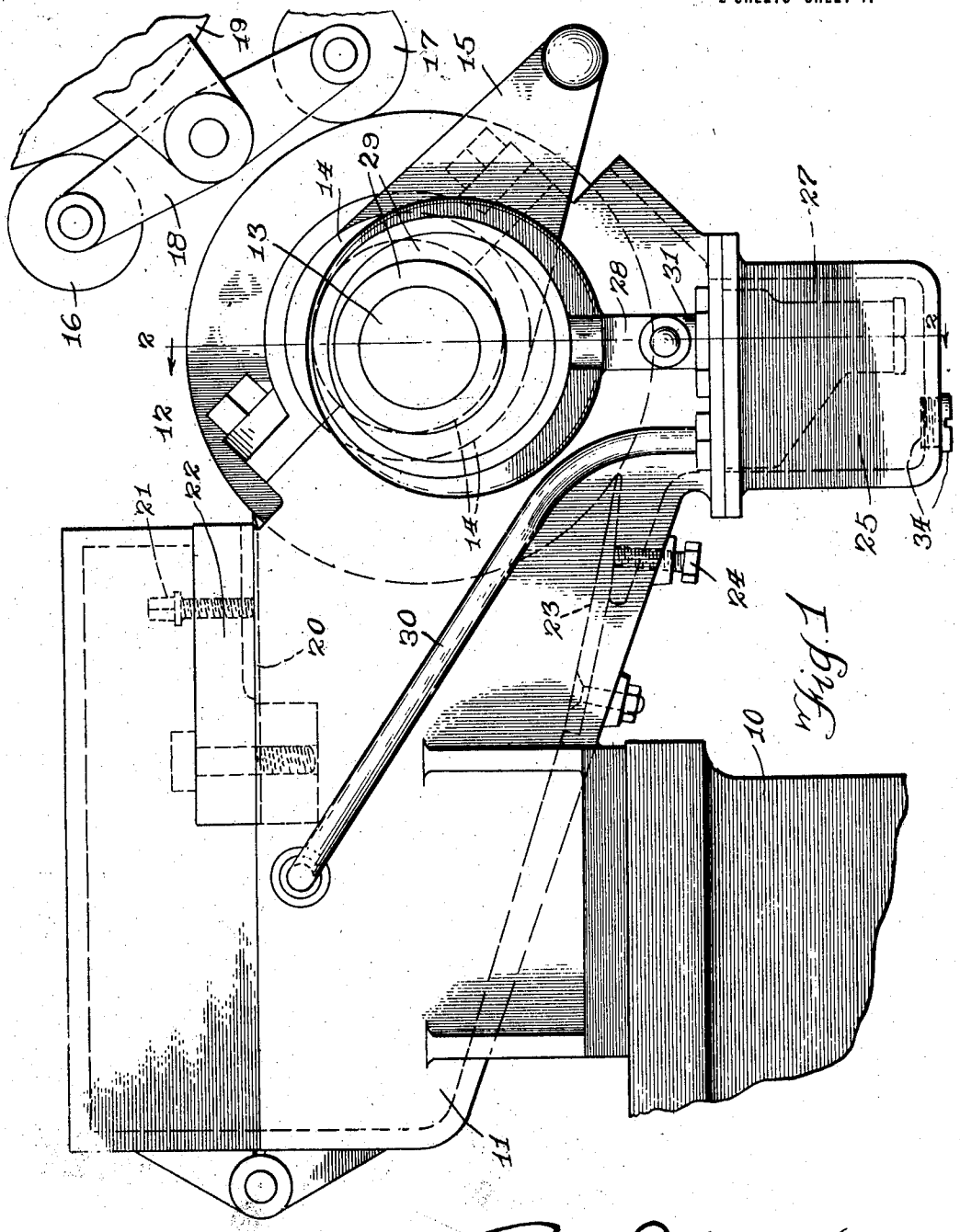


Fig. 1.

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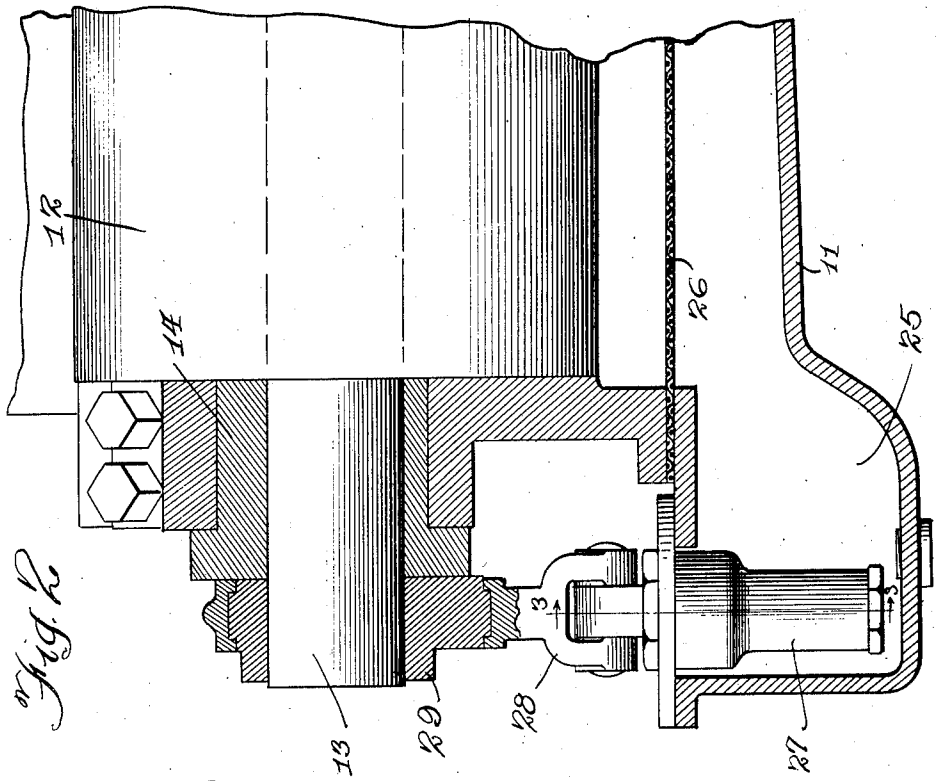


Fig. 2.

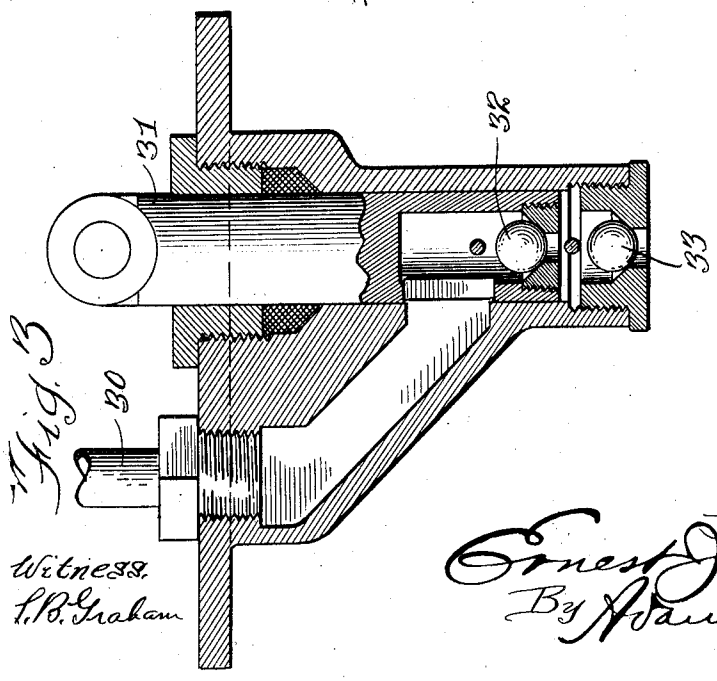


Fig. 3.

Witness.
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UNITED STATES PATENT OFFICE.

ERNEST JAMES SMITH, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE GOSS PRINTING PRESS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

INKING MECHANISM.

1,338,044. Specification of Letters Patent. Patented Apr. 27, 1920.

Application filed November 29, 1916. Serial No. 134,181.

To all whom it may concern:

Be it known that I, ERNEST JAMES SMITH, a subject of the King of England, and a resident of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Inking Mechanisms, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to inking mechanisms and it has for its principal object the provision of a new and improved form and arrangement of overshot inking mechanism which shall be adapted to feed the freshest and best ink to the printing press with which it operates and which shall provide ample space upon the face of the fountain roller for the use of a plurality of inking rollers in connection therewith if desired. Another object of my invention is to provide means for scraping the surface of the fountain roller and removing therefrom the paper dust and other foreign substances which gather thereon, and for preventing such foreign matter from coming in contact with the major portion of the ink in the fountain. Further objects of my invention are to improve the form and arrangement of the parts in such a way as to make the fountain more readily and easily cleanable as when a change in color of ink when desired, and to improve mechanisms of this type in sundry details hereinafter pointed out. The preferred means by which I have accomplished my several objects are illustrated in the drawings and are hereinafter specifically described. That which I believe to be new and desire to cover by this application is set forth in the claims.

In the drawings:

Figure 1 is an end view of the preferred form of my improved inking mechanism as seen from one side of a press;

Fig. 2 is a fragmentary view, being substantially a section taken on line 2—2 of Fig. 1; and

Fig. 3 is a detailed view, being substantially a section on line 3—3 of Fig. 2.

Referring to the several figures of the drawings in which corresponding parts are indicated by the same reference characters,—

10 indicates the framework of a press having mounted thereon an ink fountain 11 in which is revolubly mounted a fountain roller 12. The fountain roller 12 is mounted in position by means of a shaft 13 which is journaled at each end in eccentrics 14 which are adapted to be turned by means of arms 15 for carrying the roller 12 upward and to the right as viewed in Fig. 1, out of contact with the scrapers hereinafter described. Inking rollers 16—17 are mounted upon opposite ends of levers 18 which are adapted to be rocked by any suitable mechanism (not shown) for reciprocating the rollers 16—17 between the fountain roller 12 and the inking cylinder 19, the arrangement being such that when either of the rollers 16—17 is in contact with the fountain roller 12 the other roller is in contact with the cylinder 19.

20 indicates a scraper blade of the ordinary type used in an overshot inking mechanism, being adapted to be adjusted relative to the fountain roller 12 by means of a plurality of adjustable set-screws 21 of any suitable type mounted in a cross-bar 22 and bearing upon the upper face of the blade 20.

Near the lowermost portion of the fountain roller 12 is provided a second scraper blade 23 which is adjustable relative to the roller by means of a plurality of set-screws 24 which are adapted to be turned by any suitable wrench applicable from below the fountain. The scraper 23 is adapted to be tightened against the fountain roller 12 so as to scrape therefrom the major portion of the dust and dirt which is deposited upon said roller by its contact with the inking rollers 16—17. The scraper 23 also serves to support the supply of ink in the fountain 11, permitting only a slight leakage between the blade and the roller.

As is best shown in Fig. 2, the fountain 11 is provided at one end portion with a well or chamber 25, which is separated from the portion of the fountain below the blade 23 by means of a screen 26. As will be readily understood, the ink which leaks past the scraper 23, and the surplus ink which is scraped from the surface of the roller 12 by such blade 23, together with the dirt and dust which are scraped from such roller, are strained by the screen 26, the screen serving to prevent the foreign matter from entering the chamber 25.

Means is provided for transferring the strained ink from the chamber 25 to the fountain 11 above the scraper 23, such means comprising a pump 27 operated by a pump-rod 28 which in turn is actuated by an ec-

centric 29 mounted upon the shaft 13. The pump 27 is to be of any suitable type adapted to deliver the ink from the chamber 25 through a discharge pipe 30 to the fountain 11 above the scraper 23. In the construction shown the pump comprises a plunger 31 connected with the reciprocatory member 28, the plunger 31 being provided with a ball-valve 32 adapted to coöperate with a ball foot-valve 33.

Whenever it is desired to clean the fountain 11, the ink can be removed therefrom through a port normally closed by a plug 34 in the bottom of the chamber 25, the ink in the upper portion of the fountain being free to escape through said chamber when the roller 12 is moved upward and to the right by the appropriate movement of the arms 15 for rocking the eccentrics 14. When substantially all of the ink is drained from the chamber 25, the fountain can be readily cleaned by operating the fountain supplied with a suitable cleansing agent which will serve to loosen the ink on the various parts, the action of the pump 27 serving to expedite the cleaning operation.

So far as I am aware, I am the first in the art to provide for supporting the ink in an overshot inking mechanism adjacent to the fountain roller by means of a scraper which serves to scrape the dirt from the surface of the roller and to deliver such dirt into a suitable receptacle outside of the body of ink in the fountain rather than to deliver the dirt into the main ink supply. It will be understood that I do not wish to be restricted to the use of the particular form of construction illustrated except as hereinafter specifically claimed, it being understood that various changes may be made in the form of structure employed without departing from the spirit of my invention.

What I claim as my invention and desire to secure by Letters Patent, is:—

1. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a pair of scrapers supported in contact with said roller at two points spaced circumferentially thereof, and means for moving said roller out of contact with said scrapers.

2. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a pair of scrapers supported in contact with said roller at separated points circumferentially of the roller, one of said scrapers being arranged to support a supply of ink, and means for straining the ink removed from said roller by the latter scraper.

3. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a pair of scrapers supported in contac with said roller at separated points circumferentially of the roller, one of said scrapers being arranged to support a supply of ink, means for straining the ink removed from said roller by the latter scraper, and means for returning the strained ink to the main body of ink in the fountain.

4. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, an adjustable scraper in contact with said roller near its lowermost point and adapted to support a supply of ink between said roller and the walls of the fountain, means for rotating said roller so as to move upward past the scraper the portion of the roller with which said scraper is in contact, and a second scraper in contact with said roller above said first-named scraper and above the level of the ink in said fountain.

5. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a scraper in contact with said roller near its lowermost point and adapted to support a supply of ink between said roller and the walls of the fountain, means for rotating said roller so as to move upward past the scraper the portion of the roller with which said scraper is in contact, means below said scraper for straining the ink, and a second scraper in contact with said roller above said first-named scraper and above the level of the ink in said fountain.

6. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a scraper in contact with said roller near its lowermost point and adapted to support a supply of ink between said roller and the walls of the fountain, means for rotating said roller so as to move upward past the scraper the portion of the roller with which said scraper is in contact, means below said scraper for straining the ink, means for returning the strained ink to the main body of ink in the fountain, and a second scraper in contact with said roller above said first-named scraper and above the level of the ink in said fountain.

7. In an inking mechanism, the combination of an ink fountain, a fountain roller coöperating therewith, a scraper in contact with the lower portion of said roller and supporting the main body of ink in said fountain, a chamber below said scraper, and means for returning the ink from said chamber to the main body of ink in the fountain.

8. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a scraper in contact with said roller near its lowermost point at one side of the roller adapted to support a supply of ink between said roller

and the walls of the fountain, and means for delivering into said fountain above said scraper the ink which leaks between the scraper and the roller.

9. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a scraper in contact with said roller near its lowermost point at one side of the roller adapted to support a supply of ink between said roller and the walls of the fountain, means for straining the ink which leaks between the scraper and the roller, and means for delivering such strained ink into the fountain above said scraper.

10. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a scraper in contact with said roller near its lowermost point at one side of the roller adapted to support a supply of ink between said roller and the walls of the fountain, and pumping means actuated by the rotation of said roller for delivering to the fountain above said scraper the ink which leaks between the scraper and the roller.

11. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a scraper in contact with said roller near its lowermost point at one side of the roller adapted to support a supply of ink between said roller and the walls of the fountain, means for rotating said roller so as to move upward past the scraper the portion of the roller with which said scraper is in contact, means for straining the ink which leaks between the scraper and the roller and the surplus ink and foreign matter which is scraped from the face of said roller by said scraper, and means for delivering such strained ink to said fountain above said scraper.

12. In an inking mechanism, the combination of an ink fountain, a fountain roller revolubly mounted therein, a scraper in contact with said roller near its lowermost point and adapted to support a supply of ink between said roller and the walls of the fountain, means for moving said roller out of contact with said scraper, a second scraper in contact with said roller above said first-named scraper and above the level of the ink in said fountain, and a pair of rollers adapted to be moved alternately into and out of contact with said fountain roller for delivering the ink therefrom.

13. In an inking mechanism, the combination of an ink fountain open at one side, a fountain roller revolubly mounted in said fountain and extending therefrom at the open side thereof, a scraper in contact with the lower portion of said roller, said scraper being adapted to support a supply of ink between said roller and the walls of the fountain, means for moving said roller out of contact with said scraper, a second scraper in contact with said roller above the level of the ink in the fountain, and two inking rollers adapted to be brought alternately into contact with said fountain roller.

ERNEST JAMES SMITH.