H. M. BULLIS.

PRINTING PRESS ATTACHMENT.

APPLICATION FILED APR. 10, 1913.

1,081,429.

Patented Dec. 16, 1913.

2 SHEETS—SHEET 1.

Fig. 2.

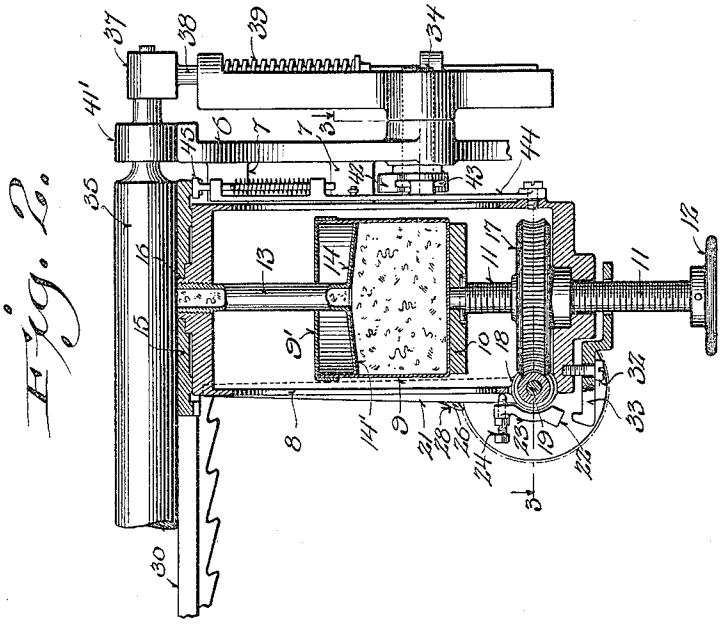
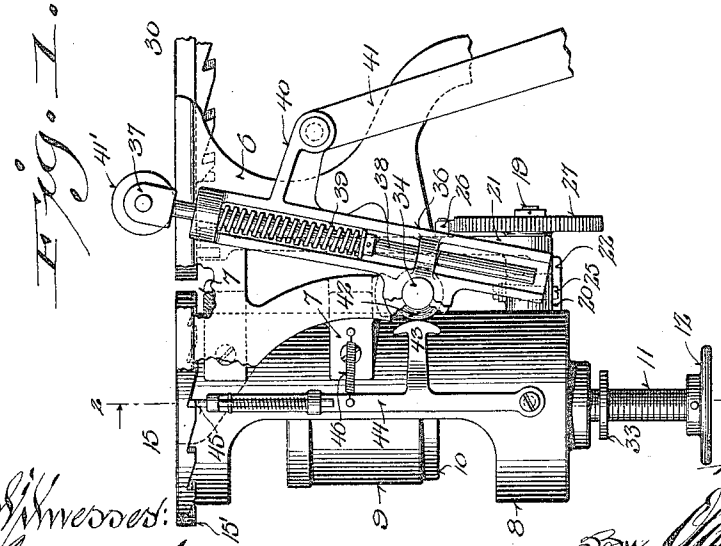


Fig. 1.



Witnesses:
Cassius Young
Mary Downey.

Inventor:
Henry M. Bullis
By Wiltshire & Young
Attorneys.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

H. M. BULLIS.

PRINTING PRESS ATTACHMENT.

APPLICATION FILED APR. 10, 1913.

1,081,429.

Patented Dec. 16, 1913.

2 SHEETS—SHEET 2.

Fig. 3.

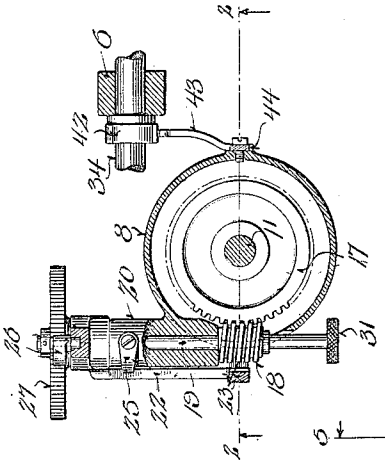


Fig. 4.

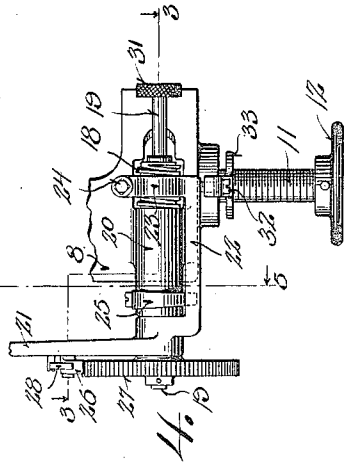
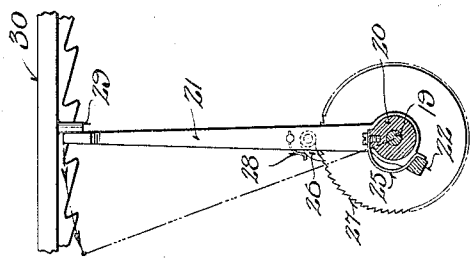


Fig. 5.



Witnesses:
Casmare Young.
May Downey

Inventor:
Henry M. Bullis
By Upshur & Young
Attorneys.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY M. BULLIS, OF MILWAUKEE, WISCONSIN.

PRINTING-PRESS ATTACHMENT.

1,081,429. Specification of Letters Patent. Patented Dec. 16, 1913.

Application filed April 10, 1913. Serial No. 760,208.

To all whom it may concern:

Be it known that I, HENRY M. BULLIS, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Printing-Press Attachments; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in what is herein particularly set forth with reference to the accompanying drawings and pointed out in the claims of this specification as a force-feed inking attachment for printing-presses; its object being to economize printers-ink, insure an even distribution of the same upon inking-disks of said presses direct from the cans in which said ink is furnished to the trade, and to save time in changing from one to another color of ink.

Figure 1 of the drawings represents a side elevation of ink feeding and distributing mechanism in accordance with my invention partly broken away; Fig. 2, a rear elevation of the same partly in section on the plane indicated by line 2—2 in Figs. 1 and 3; Fig. 3, a horizontal section indicated by line 3—3 in Figs. 2 and 4; Fig. 4, a side elevation of a fragment of said mechanism, and Fig. 5, a partly sectional elevation indicated by line 5—5 in Fig. 4.

Referring by numerals to the drawings, 6 indicates one of a pair of side brackets attachable to the frame of a printing-press, and rigidly secured in connection with the inner side of said bracket are arms 7 of a support that is shown as being a cylindrical shell 8 open at the rear to permit the placing therein of a can of printers-ink. The can 9 is one in which the ink is furnished from the manufacturer, and it is set in shell 8 upon a circular plate 10, this plate being centered on the upper end of a screw-spindle 11 that extends up through an aperture in the bottom of said shell. The plate and spindle together constitute a jack, and a hand-wheel 12 is rigid on the lower end of said spindle to facilitate manual vertical adjustment of the jack. The can-cover 9′ is centrally punctured to have slip-fit upon a spout 13 that rises from the center of a preferably conical cap 14, and this cap is set in the can to occupy the sectional area of the same over the contents thereof, the spout being screw-threaded in the top of the shell 8 to discharge upon a disk 15 that turns on a shouldered central boss 16 with which said top of the shell is provided. However the can-top may be omitted without impairing the action of the mechanism herein specified, and it is preferable to employ a packing-disk 14′ between the cap 14 and can-contents.

Within the shell 8, upon the bottom thereof, is a worm-wheel 17 that is also a nut engaged by the screw-spindle 11 of the aforesaid jack, and engaging said wheel is a worm 18 fast on a spindle 19 for which said shell is provided with a bearing-lug 20. As a result of an adjustment of the jack in one direction there is a sufficient frictional bind between the bottom of the can 9 and the jack-plate 10 to prevent turning of the jack-spindle 11 with the worm-wheel 17 that binds in the worm 18 when said spindle is manually operated. Loose on the spindle is the lower fulcrum-end of a lever 21 having a lateral arm 22 provided with a vertically disposed lug 23 in which a stop-screw 24 is adjustable in opposition to the aforesaid shell. Attached to the bearing-lug 20 is one end of a spring 25 and the other end of this spring opposes the lever-arm 22. In pivotal connection with the lever 21 is a pawl 26 that engages a ratchet-wheel 27 fast on the worm-spindle 19, and a spring 28 in connection with said lever opposes lift of the pawl. The lever extends up in the path of a pin 29 depending from the rotary inking disk 30 of the printing-press, and thus provision is had for operating said lever to effect an intermittent elevation of the can 9, whereby there is a force-feed of ink through the spout 13 of the cap 14 that is stationary within said can.

To provide for taking up lost motion between the worm-wheel 17 and worm 18, after primary vertical adjustment of the jack aforesaid, a hand-wheel 31 is made fast on the worm-spindle 19, the stop-screw 24 being adjusted to determine the working-throw of the lever 21.

Loose on a screw 32 depending from the bottom of the shell 8, is a dog 33, also loose on the screw-spindle 11 in the path of the hand-wheel 12, said dog serving to catch the arm 22 of the lever 21 and prevent return of said lever to normal position when the bottom of the ink-can 9 is fed up to the cap 14, whereby the can-lifting mechanism is automatically stopped.

The brackets aforesaid are provided with

bearings for a shaft 34 to which guide-bars for spring-controlled shanks of bearings for the journals of an ink-distributing roller 35 are rigidly secured. One guide-bar 36, journal-bearing 37, shank 38 and spring 39 are shown, and said bar is provided with an arm 40 attached to a pitman 41 that is utilized in connection with a suitable moving part of the press to effect a reciprocation of the distributing roller 35 upon the disks 15 and 30 aforesaid. It is preferred that each journal of said roller carry an anti-friction wheel 41′ having travel on the upper track-edge of the adjacent bracket 6.

Fast on the shaft 34 is a cam 42 opposing a wiper-arm 43 of a lever 44 that is fulcrumed on the shell 8 and carries a spring-controlled slipping-pawl 45 engageable with a depending ratchet-flange 15′ of the disk 15, and a spring 46 connects said lever with an arm 7 of said shell. By means of the mechanism just described intermittent rotary motion is imparted to the disk 15 to facilitate distribution of ink fed thereto through the spout 13 aforesaid.

From the foregoing it will be understood that the ink is automatically fed at intervals direct from the can 9 to the disk 15, in such quantity as may be determined by the adjustment of the stop-screw 24, and the distributing roller 35 not only spreads said ink on the disk 15 but also carries it onto the main distributing disk 30 of the press where it has further distribution.

I claim:

1. The combination of a support attachable to a printing press, a jack having vertically adjustable connection with the support and serving as a stand for a can of printers-ink, means for automatic intermittent lift of the jack, a pressure-cap designed to occupy the can over the contents thereof, a spout extending upward from the cap, an intermittently rotary disk upon which the spout discharges centrally thereof, and a distributing roller reciprocative on said disk and an adjacent inking-disk of said press.

2. The combination of a support attachable to a printing-press, a jack having a screw-threaded shank extending through the lower end of the support, a nut in said support engaged by said shank, means for automatic intermittent rotation of the nut to elevate the jack, a pressure-cap designed to occupy a can of printers-ink seated on said jack, a spout extending upward from the cap, an intermittently rotary disk upon which the spout discharges central thereof, and a distributing-roller reciprocative on said disk and an adjacent inking-disk of said press.

3. The combination of a support attachable to the frame of a printing-press, a jack vertically adjustable in the support, means for automatic intermittent lift of the jack and for predetermined stop of the lift, a pressure-cap designed to occupy a can of printers-ink seated on said jack, a spout extending upward from the cap, an intermittently rotary disk upon which the spout discharges central thereof, and a distributing-roller reciprocative on said disk and an adjacent inking-disk of said press.

4. The combination of a support attachable to the frame of a printing-press, a jack having a screw-threaded shank extending through the lower end of the support and provided with a hand turning device, a worm-wheel that is also a nut on said shank within said support, a worm engaging said wheel, pawl-and-ratchet worm-drive-mechanism, means for intermittent action of the pawl and for regulating its throw, a pressure-cap designed to occupy a can of printers-ink seated on the jack, a spout extending upward from the cap, an intermittently rotary disk upon which the spout discharges central thereof, and a distributing-roller reciprocative on said disk and an adjacent inking-disk of said press.

5. The combination of a support attachable to the frame of a printing-press, a jack having a screw-threaded shank extending through the lower end of the support and provided with a hand turning device, a worm-wheel that is also a nut on said shank within said support, a worm engaging said wheel, pawl-and-ratchet worm-drive-mechanism, means for intermittent action of the pawl and for regulating its throw, means for predetermined automatic stop of said mechanism, a pressure-cap designed to occupy a can of printers-ink seated on the jack, a spout extending upward from the cap, an intermittently rotary disk upon which the spout discharges central thereof, and a distributing-roller reciprocative on said disk and an adjacent inking-disk of said press.

6. The combination of a pair of brackets, attachable to the frame of a printing-press, a shell in connection with one of the brackets, a jack vertically adjustable in the shell and serving as a stand for a can of printers-ink, means for automatic intermittent lift of the jack, a pressure-cap designed to occupy the can over the contents thereof, a spout extending upward from the cap, a disk rotatory on said shell and through which the spout discharges central of the same, a shaft for which said brackets are provided with bearings, bars fast on the shaft, an actuating pitman in connection with one of the bars, spring-controlled bearings having shanks for which said bars are provided with guides, a distributing-roller journaled in the spring-controlled bearings to have reciprocation on the shell-supported disk and an adjacent inking-disk of the press, a cam fast-on said shaft, a spring-controlled lever hav-

ing a wiper-arm opposing the cam, and a spring-controlled slipping pawl guided on the lever to engage with a depending ratchet-flange of the disk first aforesaid.

7. The combination of a pair of brackets, attachable to the frame of a printing-press, a shell in connection with one of the brackets, a jack vertically adjustable in the shell and serving as a stand for a can of printers-ink, means for automatic intermittent lift of the jack, a pressure-cap designed to occupy the can over the contents thereof, a spout extending upward from the cap, a disk rotatory on said shell and through which the spout discharges central of the same, a shaft for which said brackets are provided with bearings, bars fast on the shaft, an actuating pitman in connection with one of the bars, spring-controlled bearings having shanks for which said bars are provided with guides, a distributing-roller journaled in the spring-controlled bearings to have reciprocation on the shell-supported disk and an adjacent inking-disk of the press, anti-friction wheels carried by the roller journals to travel on upper track-edges of said brackets, and means for imparting automatic intermittent rotary motion to the disk first aforesaid.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

HENRY M. BULLIS.

Witnesses:
CASANA B. YOUNG,
M. E. DOWNEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."