

(No Model.)

3 Sheets—Sheet 1.

T. J. TURLEY.

TINTING ATTACHMENT FOR PRINTING PRESSES.

No. 538,716.

Patented May 7, 1895.

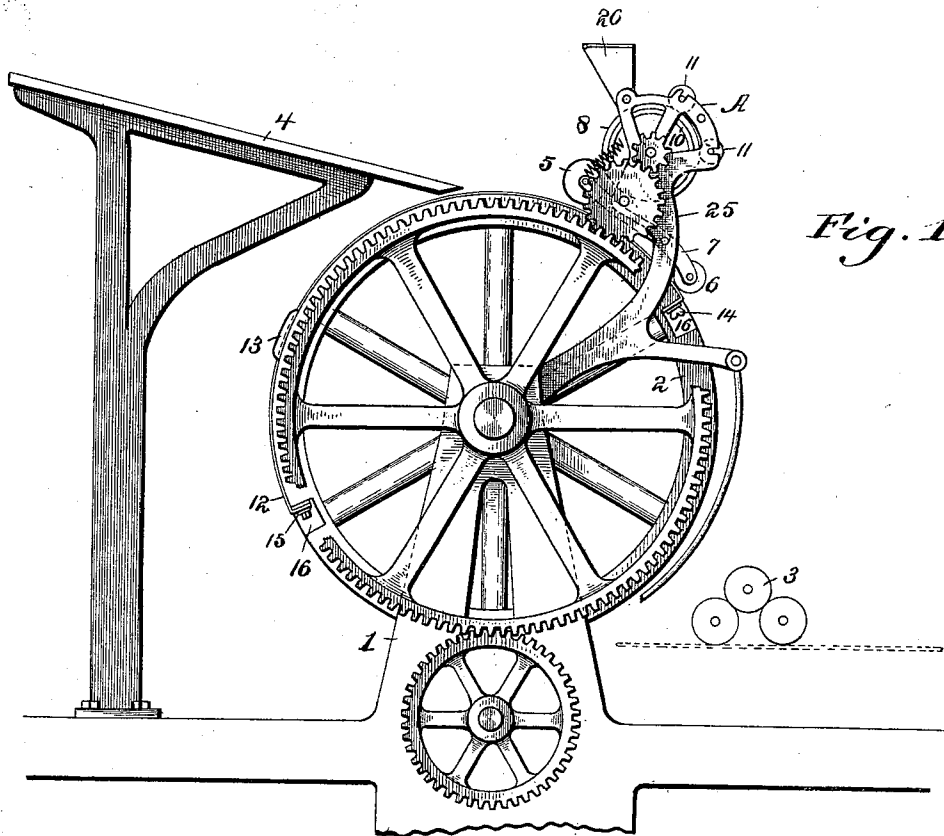


Fig. 1.

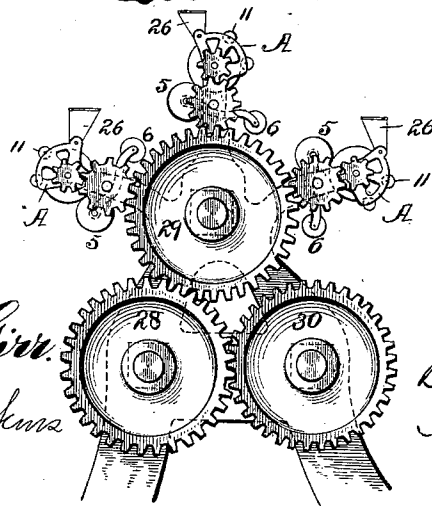


Fig. 3.

Witnesses:

J. B. McGinnis

Albert Popkema

Inventor

T. J. Turley,
By Honson Honson,
Attys

T. J. TURLEY.

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Fig. 2.

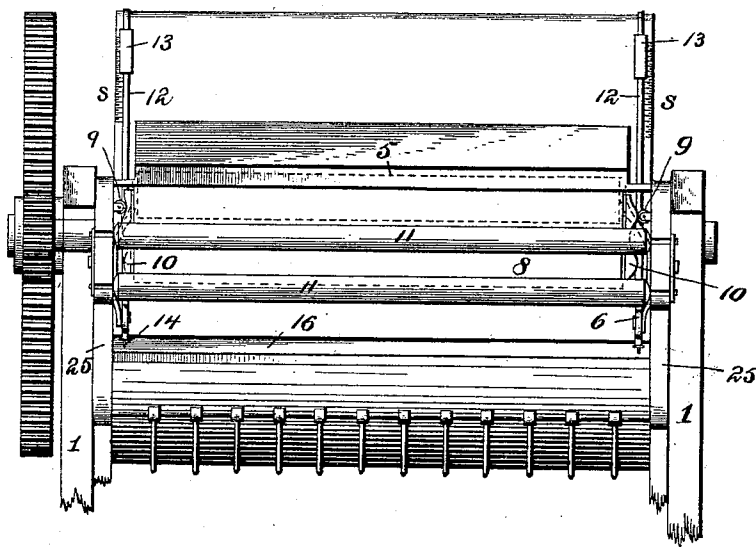


Fig. 4.

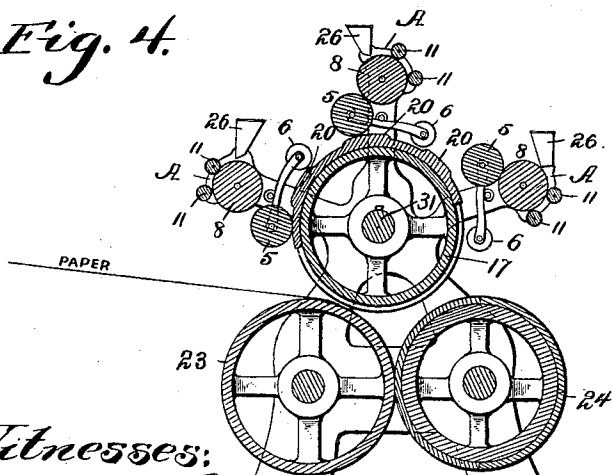
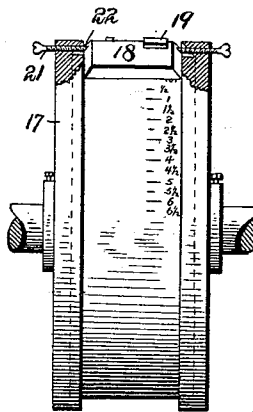


Fig. 5.



Witnesses:

J. M. Giv.
Albert Popkine.

Inventor:

J. J. Turley,
By Howson & Howson
Attys.

(No Model.)

3 Sheets—Sheet 3.

T. J. TURLEY.

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Fig. 6.

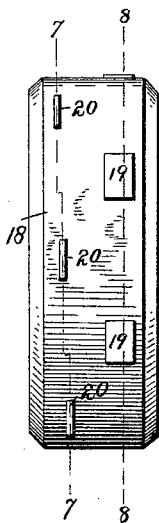


Fig. 9.

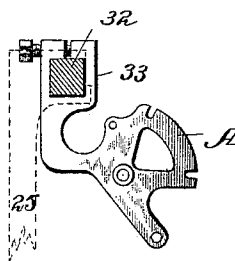


Fig. 7.

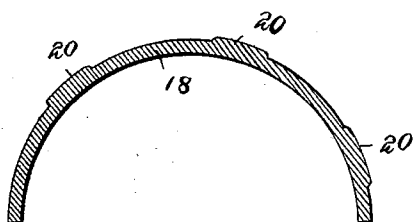
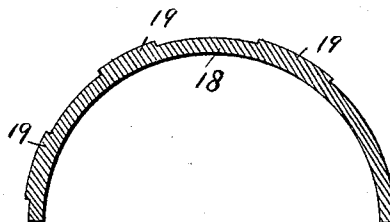


Fig. 8.



Witnesses:

J. B. McGinnis
Albert Popkins

Inventor.

T. J. Turley
By *Hanson & Hanson*
Attys.

UNITED STATES PATENT OFFICE.

THEODORE J. TURLEY, OF NASHVILLE, TENNESSEE.

TINTING ATTACHMENT FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 538,716, dated May 7, 1895.

Application filed July 13, 1894. Serial No. 517,413. (No model.)

To all whom it may concern:

Be it known that I, THEODORE J. TURLEY, a citizen of the United States, residing at Nashville, county of Davidson, Tennessee, have
5 invented certain new and useful Improvements in Tinting Attachments for Printing-Presses, of which the following is a specification.

The object of my invention is to provide a
10 tinting attachment for printing presses by which any portion of the paper may be tinted before it passes to the impression mechanism whereby matter may be readily printed upon
15 a colored background in a single run of the paper through the press. I accomplish this object by the mechanism shown in the accompanying drawings and hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a portion of a bed and cylinder press, showing my device attached thereto. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation of a portion of a perfecting-press with my invention attached thereto. Fig. 4
25 is a transverse vertical section of the same. Fig. 5 is a front view of the cam-wheel for operating the ink-rollers, the upper portion in broken section. Figs. 6, 7, 8, and 9 are details to be hereinafter described.

30 Referring to the drawings, 1 indicates the frame of the press supporting the impression cylinder, 2, and a table, 4. 3 are the ordinary black ink rollers. Around the outer edges of the impression cylinder metal bands, 12, are
35 secured at both ends in the recesses, 16, in the impression cylinder by means of suitable bolts, 15, and set screws, 14. By loosening these set screws the tension upon the bands can be eased, so that the blocks, 13, having
40 undercut grooves sliding upon the bands may be adjusted to any point desired. This block, 13, fits snugly upon the band and is held in place by the tension upon the band caused by tightening the set screw 14.

45 Projecting upwardly from the frame of the press is an arm, 25, from which is carried the inking apparatus, A, consisting of the main roller, 8, the distributing rollers, 11, the reservoir, 26, and the pivoted lever, 7, carrying at
50 one end the transferring roller, 5, and at the other end the small wheel or roller, 6, adapted

to be engaged by the cam blocks or depressors, 13, as the impression cylinder rotates. A suitable spring connects to the lever, 7, with the frame of the ink apparatus, thereby normally holding the transferring roller, 5, in
55 contact with the main ink roller, 8. Upon the ends of the roller, 8, suitable cams, 10, are provided for engagement with friction rollers, 9, on the frame of the inking apparatus, so
60 that a vibratory motion may be given to said ink roller to secure the proper distribution of the ink upon its surface.

Around the edge of the impression cylinder I preferably arrange a scale, s, Fig. 2, for the
65 purpose of more readily adjusting the depressors, 13, in proper relation to the top of the page.

From the foregoing description it will be seen that as the impression cylinder rotates
70 and the paper is fed around it, the depressor, 13, comes in contact with the roller, 6, and raises the said roller, thereby depressing the transferring roller, 5, until it comes in contact with the paper upon which it tints a
75 background in length corresponding to the length of the cam block, 13, and in width corresponding to the length of the roller, 5. In the further rotation of the impression cylinder the impression to be taken will be made
80 from the paper and that portion which has been tinted will appear in the proper place upon the page or column in contrast to the rest of the paper.

It is to be understood that the transferring
85 roller, 5, may be of any length desired and that it is not necessary to have the inking apparatus extend the full length of the impression cylinder, for it is obvious that the frame supporting this apparatus may be of such
90 width as will be sufficient to carry rollers of the length desired. The frames supporting the ink apparatus may in such cases be separate from the main frame of the press and suitably bolted or clamped to the arms, 25, as
95 will be readily understood.

As shown in Fig. 9, the arms, 25, on each side of the press may support a cross bar, 32, upon which the frame of the inking apparatus is clamped by the jaws, 33, and along
100 which the whole inking apparatus can be slid so as to bring the ink roller, 5, over the proper

column or columns intended to be tinted. In such case the rollers 6, should be supported upon a shaft extending entirely across the impression cylinder, and splined or otherwise suitably mounted in the levers, 7, so that the latter may move longitudinally thereof as the ink mechanism is adjusted to the desired position.

Referring now to Figs. 3 to 8, to adapt my invention to a perfecting press I mount in the frame above the plate and impression cylinders the shaft, 31, upon which is splined a cam wheel, 17, provided on each side with flanges having undercut grooves, 22. A segmental curved plate, 18, having beveled edges is adapted to fit between the flanges of this wheel and is adjustable laterally on the wheel by set screws, 21, which have their beveled ends contacting with the beveled edges of the plate. This plate is cast with the projections, 19, forming a surface for receiving the color from the inking apparatus, and it has also, cast upon its surface, cam projections, 20, which are adapted to operate the rollers, 6, for depressing the transferring roller, 5, into contact with the printing surface, 19, in a similar manner to that described with reference to Fig. 1.

The length of the cams 20, must be equal to the length of the printing surface at 19, and when two or more tints are to be made the cams, 20, should be staggered as shown in Fig. 6, so that each one will operate its proper roller, 6; and the distance of the printing surface, 19, from the respective cams, 20, must of course be equal to the distance between the arcs described by the rollers 5 and 6.

Upon the end of the shaft, 31, is a spur gear, 29, meshing with the gear, 28, on the end of the shaft carrying the impression cylinder, 23. The type cylinder, 24, is provided with a suitable gear, 30, meshing with the gear, 28, this cylinder being of course out of contact with the cam wheel, 17. When it is desired to tint the paper as it passes around the impression cylinder, the segmental plate, 18, is cast with the printing surfaces, 19, of the desired length and width thereon, and the corresponding cams, 20. The plate is then placed around the cam wheel, 17, between the flanges and adjusted laterally by the set screws and moved circumferentially until the printing surfaces are in proper relation in respect to the top of the column, a scale on the surface of the cam wheel as shown in Fig. 5, in proper units indicating the position of the end of the cam plate for the different distances from the top of the column. The cam wheel, 17, is laterally movable on the shaft, 31, being secured in position by any suitable means, as by set screws passing through the hubs. It can thus be moved laterally of the impression cylinder and placed in position to tint the desired portion transversely of the page.

The operation of the attachment applied to the perfecting press will be readily under-

stood from this description, as it is in all respects similar to the operation of the device attached to the bed and cylinder press.

The inking rollers are preferably operated by gears meshing with the gear or circular rack upon the impression cylinder, but they may be given their rotary motion by any convenient means, as, in presses that do not have the rack on the impression cylinder, by friction wheels, belt and pulley, or chain and sprocket wheel, &c., all of which is well understood.

I claim as my invention—

1. In a printing press, a tinting mechanism consisting of a rotative part, a color inking apparatus adjacent thereto, a lever fulcrumed on said apparatus and having an inking roller journaled on one arm thereof, normally held out of contact with the rotative part, and cams located upon said rotative part, adapted to engage the other arm of the said lever to raise the same and depress the color ink roller, at predetermined points, substantially as described.

2. In a printing press, a tinting mechanism for tinting the paper before it passes around the impression cylinder comprising a rotative part, a color inking apparatus adjacent thereto, a lever fulcrumed on the frame of said apparatus, an inking roller journaled on one arm of said lever, normally held out of contact with the rotative part, and a cam or cams adjustably mounted upon the rotative part, said cam or cams adapted to raise the other arm of the lever and depress the ink roller, whereby a tinted background may be spread upon the paper before it passes around the impression cylinder to the main form, substantially as described.

3. The combination with the impression cylinder of a printing press, of a flanged wheel secured to a shaft above and rotating with said cylinder, a segmental curved plate mounted on the wheel and provided with one or more raised surfaces for receiving ink, and one or more corresponding cam projections thereon, one or more inking apparatus supported around the periphery of said wheel, a lever fulcrumed on each of said inking apparatus, an inking roller journaled on one arm of each lever, the other arm of each lever adapted to be raised by its corresponding cam projection on the segmental plate so as to depress the roller into contact with its corresponding ink receiving surface, substantially as described.

4. The combination with the impression cylinder, of the flanged wheel laterally movable upon a shaft journaled above the cylinder, inking apparatus with levers fulcrumed thereon, each carrying an inking roller at one end thereof, normally held away from the wheel, the segmental curved plate having beveled edges mounted between the flanges of the wheel, and adjustable laterally and circumferentially of the wheel, said plate having raised surfaces for receiving ink thereon, and

corresponding cam projections adapted to engage the other end of the levers to depress the ink rollers as the plate passes under the inking apparatus, substantially as set forth.

5 5. In a tinting apparatus, the combination with the impression cylinder, of the flanged wheel, having a scale around its flanges, mounted upon a shaft above the said cylinder, the inking apparatus with levers fulcrumed thereon, ink rollers supported by one
10 end of said levers and normally held away from the wheel, the segmental curved plate, slidably mounted on the wheel between the flanges thereof, and having raised ink receiv-

ing surfaces corresponding in number to the 15 ink rollers, with corresponding cam projections, adapted to engage the other opposite ends of the levers, respectively, to depress each roller into contact with its corresponding ink receiving surface, substantially as described. 20

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THEODORE J. TURLEY.

Witnesses:

S. H. ORR,

HENRY C. HENLEY.