

901,964.

Patented Oct. 27, 1908.

2 SHEETS—SHEET 1.

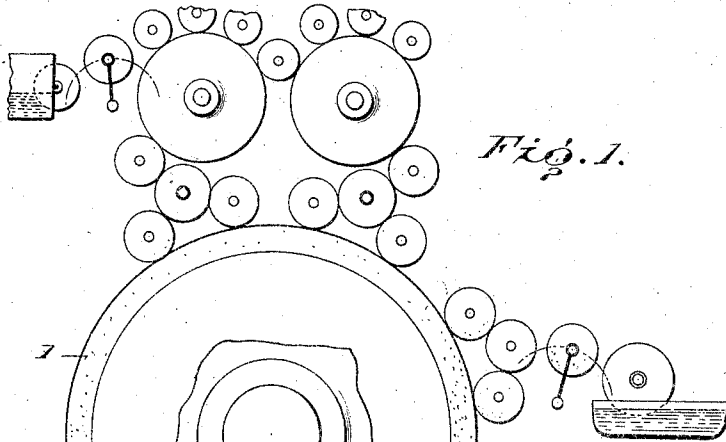
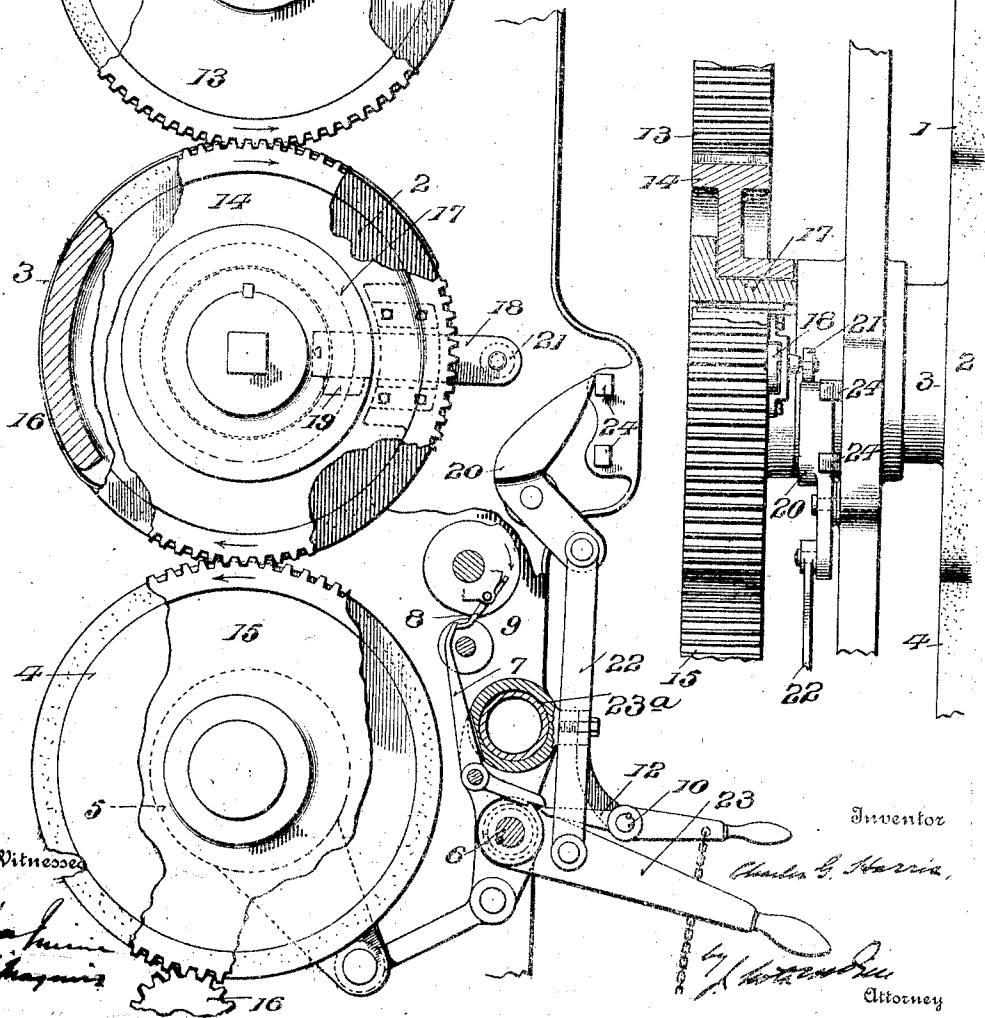


Fig. 1.

Fig. 2.



Witnesses

John H. Harris
W. H. Harris

Inventor

Charles G. Harris

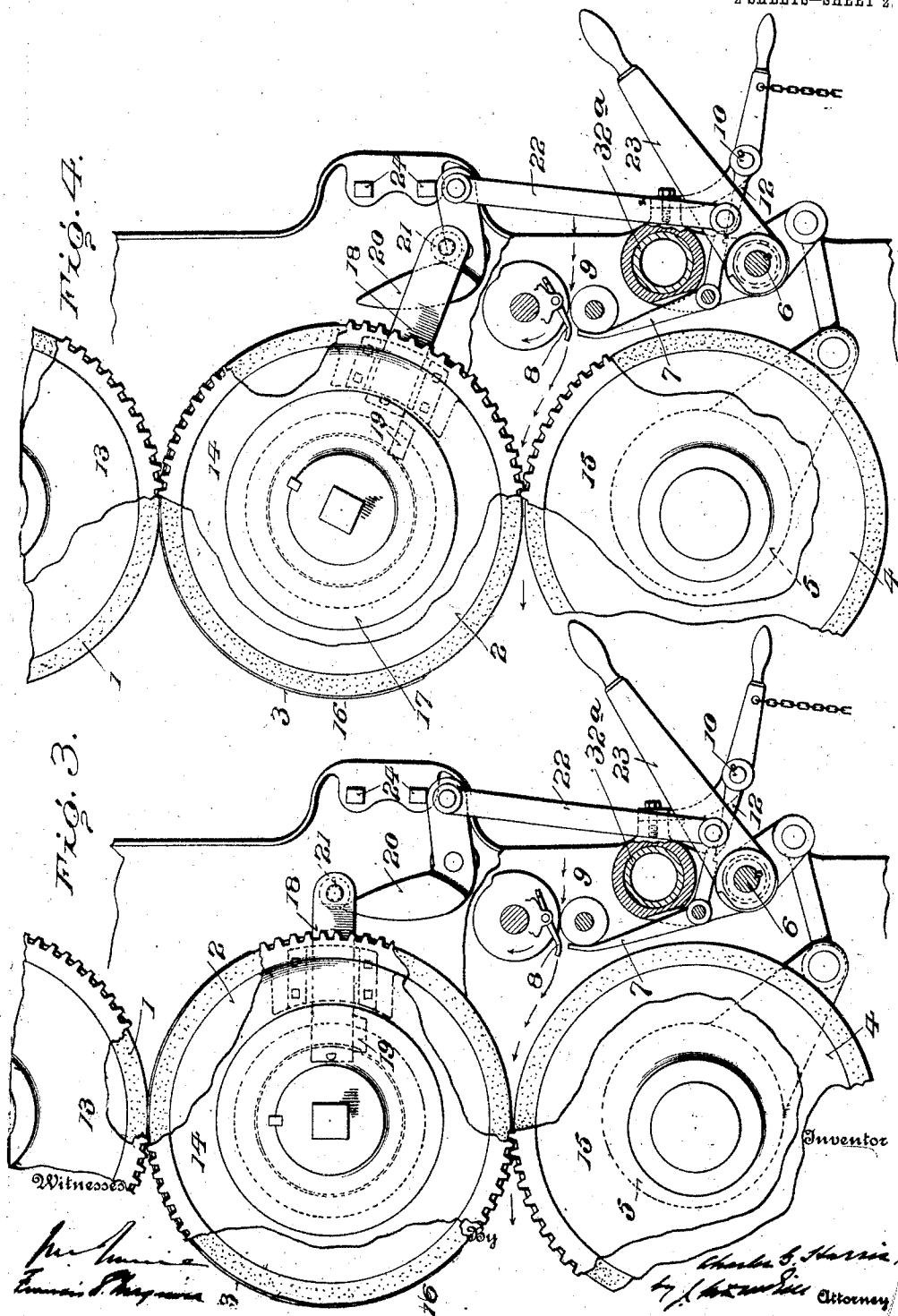
Attorney

C. G. HARRIS.
 PRINTING PRESS.
 APPLICATION FILED DEC. 31, 1906.

901,964.

Patented Oct. 27, 1908.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

CHARLES GRANT HARRIS, OF NILES, OHIO, ASSIGNOR TO THE HARRIS AUTOMATIC PRESS COMPANY, OF NILES, OHIO, A CORPORATION OF OHIO.

PRINTING-PRESS.

No. 901,964.

Specification of Letters Patent.

Patented Oct. 27, 1908.

Application filed December 31, 1906. Serial No. 350,259.

To all whom it may concern:

Be it known that I, CHARLES G. HARRIS, of Niles, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of printing presses employing a transfer-surface for imparting to the stock the design received from an inked form.

The primary object of this invention is to enable the transfer-member to be automatically brought to rest without interfering with the operation of the form and impression-members, enabling access to be readily had to the transfer-member and permitting it to be manually actuated independently of the other members.

A further object is to enable the actuation of the mechanism by which the arresting of such transfer-member is brought about to be accomplished either manually or automatically in the event of any interruption in the feed supply.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an end elevation showing the several cylinders of a printing press in operative relation. Fig. 2 is an edge view with the gear of the transfer-cylinder partly in section. Fig. 3 is a view similar to Fig. 1 showing the impression-cylinder thrown off and the parts in position to disengage the transfer-cylinder from its gear. Fig. 4 shows the transfer-cylinder and its gear disengaged.

Referring to the drawings, 1 designates the form-carrying cylinder; 2 the transfer-cylinder having the usual rubber blanket 3; and 4 the impression-cylinder. The latter is mounted in eccentric bearings 5 after the manner indicated by Letters Patent of the United States No. 577,405, such bearings being connected to a spring-actuated shaft 6 normally restrained by a trip 7 which is automatically released by a trip-arm 8 in the event of stock not being in position to prevent such trip-arm engaging the trip 7, as clearly pointed out in Letters Patent No. 676,241. The feed-rolls are conventionally

indicated at 9 and are intended to impart to the stock an accelerated movement greater than the face speed of the impression-cylinder, as covered by Letters Paters of the United States No. 577,299. The trip-arm 8 60 is carried by the upper feed-rolls. By manually turning a shaft 10 the trip 7 may be disengaged from the shaft 6, an arm 12 of said shaft engaging and releasing said trip.

The form-cylinder 1, the transfer-cylinder 65 2 and the impression-cylinder 4 carry constantly intermeshing gear-wheels, 13, 14 and 15, respectively, so that the several cylinders may be revolved in unison, power being applied from power-gear 16 to the gear of the 70 impression-cylinder. It is contemplated by my invention that the transfer-cylinder shall be brought to a stop while the form- and impression-cylinders may continue to rotate, and that the transfer-cylinder may be turned 75 manually independently of the other cylinders. This may be accomplished in several ways, but the means shown will serve as an illustration, the invention not being confined to any particular mechanism for ac- 80 complishing the desired result. According to the means shown the gear 14 is disengaged from the transfer-cylinder so that while the latter will remain idle, the form-cylinder may be rotated by the impression-cylinder, 85 the gear 14 running as an idler. Fast on the shaft of the transfer-cylinder is a collar 17 on whose hub the gear 14 is loosely mounted, said gear being normally locked to the collar by a sliding bolt 18, mounted on the 90 gear, engaging a lug 19 fast on the end of the collar-hub. A cam-faced switch-lever 20 when engaged by a pin 21 on the bolt 18 will withdraw the latter, thus allowing the transfer-cylinder to remain stationary. The 95 switch-lever 20 is connected by a link 22 to a handle 23 on shaft 6, so that when said shaft is tripped to throw off the impression-cylinder, the switch-lever is thrown into the path of travel of pin 21 and effects the 100 withdrawal of bolt 18 from engagement with lug 19. Thus the transfer-cylinder is brought to a stop after the impression-cylinder has been thrown off. Inasmuch as the blanket surface should extend not more 105 than one-half of the circumference of the transfer cylinder, the latter cannot be rotated by friction with the form cylinder after its gear is unlocked, since such unlocking occurs just as the blanket passes out 110

of contact with the form cylinder. Of course, if desired an ordinary automatic brake, such as is used on stop cylinder presses, could be employed to act upon the transfer cylinder, to insure its stopping at any desired point, but this is not necessary. In throwing in the impression-cylinder, the shaft 6 is turned by handle 23, and switch-lever 20 is so shifted that upon the pin 21 engaging therewith the bolt will be forced inwardly in line to engage lug 19 and cause the transfer-cylinder to revolve in unison with the other cylinders. Stops 24 limit the movements of the switch-lever.

The shaft of the transfer-cylinder is squared at one end to permit of its being turned by a crank or other tool while disengaged from its gear, enabling access to be had to all points of the blanket and perimeter of the cylinder.

When the transfer-cylinder is idle, the form-cylinder may be revolved, if desired, as when it is necessary or desirable to moisten the form plate or work up the ink before renewing the printing operation. This may be done by applying power to the impression-cylinder.

I claim as my invention:—

1. In a printing press having a form-carrying member, a transfer-member, and an impression-member, means for operating the three members by power applied to one of them, and means for automatically bringing the transfer-member to rest while the form-carrying member and impression member may continue to be operated.

2. In a printing press having a form-carrying cylinder, a transfer-cylinder, and an impression-cylinder, means for operating the three cylinders by power applied to one of them, and means for automatically causing the transfer-cylinder to cease to rotate while the form-carrying cylinder and impression-cylinder may continue to be operated.

3. In a printing press having a form-carrying cylinder, a transfer-cylinder, and an impression-cylinder, means for operating the three cylinders by power applied to the impression-cylinder, and means for automatically causing the transfer-cylinder to cease to rotate while the form-carrying cylinder and impression-cylinder may continue to be operated.

4. In a printing press having a form-carrying cylinder, a transfer-cylinder, and an impression-cylinder, means for uniformly operating all of said cylinders, and means for automatically causing the transfer-cylinder to cease to rotate while the other cylinders remain in operation.

5. In a printing press having a form-carrying cylinder, a transfer-cylinder, and an impression-cylinder, intermeshing gear-wheels carried by said cylinders, and means for automatically releasing the transfer-cylinder from its gear to allow the latter to revolve in unison with the gears of the form-cylinder and impression-cylinder while the transfer-cylinder is brought to rest.

6. In a printing press having a form-carrying cylinder, a transfer-cylinder, and an impression-cylinder, means for throwing-off the impression-cylinder relative to the transfer-cylinder, and means for causing the transfer-cylinder to become idle relative to the form-cylinder and impression-cylinder.

7. In a printing press having a form-carrying cylinder, a transfer-cylinder, and an impression-cylinder, means for throwing-off the impression-cylinder relative to the transfer-cylinder, and means actuated by such latter means for causing the transfer-cylinder to become idle relative to the form-cylinder and impression-cylinder.

8. In a printing press having a form-carrying cylinder, a transfer-cylinder, and an impression-cylinder, means for automatically throwing-off the impression-cylinder relative to the transfer-cylinder, and means for causing the transfer-cylinder to become idle relative to the form- and impression-cylinders.

9. In a printing press having a form-carrying cylinder, a transfer-cylinder, and an impression-cylinder, means for automatically throwing-off the impression-cylinder relative to the transfer-cylinder, and means actuated by such latter means for causing the transfer-cylinder to become idle relative to the form- and impression-cylinder.

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

CHARLES GRANT HARRIS.

Witnesses:

C. G. PRITCHARD.

HENRY A. PORTER.