

H. M. BARBER.
 OFFSET MECHANISM FOR PRINTING MACHINES.
 APPLICATION FILED MAY 21, 1908.

996,902.

Patented July 4, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

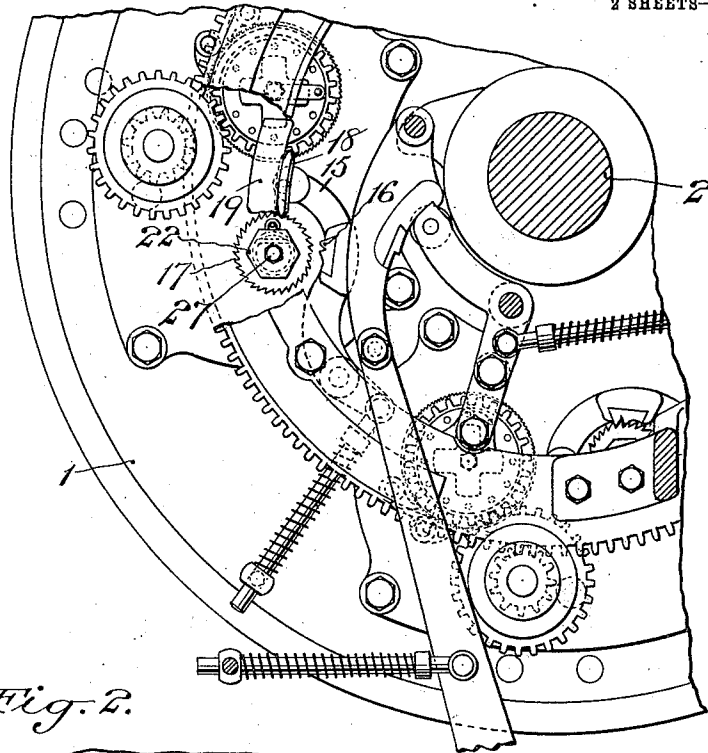
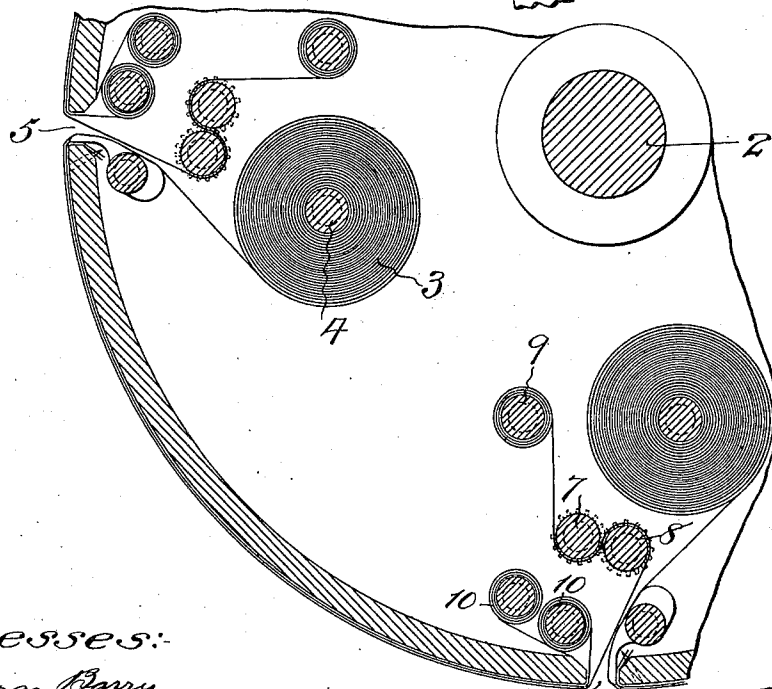


Fig. 2.



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 Henry Shims.

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 Howard M. Barber
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2 SHEETS—SHEET 2.

Fig. 3.

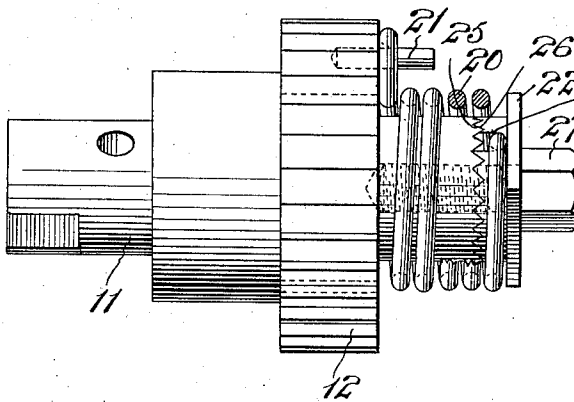


Fig. 4.

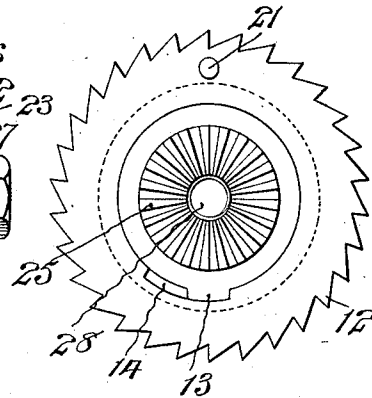


Fig. 5.

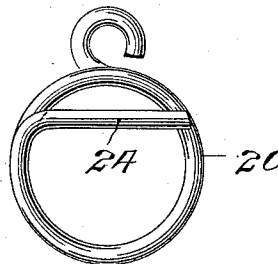


Fig. 6.

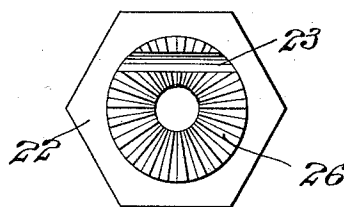
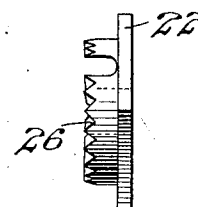


Fig. 7.



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UNITED STATES PATENT OFFICE.

HOWARD M. BARBER, OF STONINGTON, CONNECTICUT, ASSIGNOR TO C. B. COTTRELL & SONS COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

OFFSET MECHANISM FOR PRINTING-MACHINES.

996,902.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed May 21, 1908. Serial No. 434,129.

To all whom it may concern:

Be it known that I, HOWARD M. BARBER, a citizen of the United States, and resident of Stonington, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Offset Mechanism for Printing-Machines, of which the following is a specification.

My invention relates to an improvement in offset mechanism for printing machines and has for its object to provide a tension adjusting device for the shifting tympan supply roller whereby the tension of the roller may be accurately adjusted.

A practical embodiment of my invention is represented in the accompanying drawings in which—

Figure 1 represents an end view of a portion of an impression cylinder with my improved tension adjusting device for the shifting tympan supply roller applied thereto, certain of the parts being broken away to more clearly show the parts beneath them; Fig. 2 is a detail transverse section through a portion of the impression cylinder; Fig. 3 is a view in side elevation of the shifting tympan supply roller journal and its tension adjusting device, a portion of the tension spring being broken away to more clearly show the engagement of the tension adjusting cap with the journal of the tympan supply roller; Fig. 4 is an end view of the same with the tension adjusting cap and the tension spring removed; Fig. 5 is an end view of the tension spring; Fig. 6 is an inner end view of the tension adjusting cap; and Fig. 7 is a side view of the same.

The impression cylinder is denoted by 1 and its shaft by 2. The tympan supply roll 3 is wound upon the roller 4 and the tympan runs from said roller to the exterior of the cylinder through an opening 5 and from thence over the impression surface of the cylinder to another opening 6 where it passes into the interior of the cylinder and is engaged by the feed rollers 7 and 8, from whence it is wound upon the take-up roller 9. The usual blankets 10 are interposed between the surface of the roll and a tympan along the impression surface of the cylinder.

The mechanism for shifting the tympan at predetermined intervals is well known in the art and will therefore not be particularly described herein, the present invention being

devoted exclusively to the tension adjusting device for the tympan supply roller.

The journal 11 of the tympan supply roller 4 extends outside of the impression cylinder 1 and is there provided with a ratchet wheel 12 having a limited rotary movement with respect to the said journal. This limited rotary movement in the present instance is provided for by a rib 13 on the periphery of the journal and an elongated recess 14 in the inner wall of the ratchet wheel 12. The ratchet wheel 12 is locked and released by a pawl lever 15 provided with teeth 16 arranged to engage and disengage the teeth 17 of the ratchet wheel. The movement of this pawl lever 15 is controlled in the usual manner by the engagement of the shoe 18 carried by the lever, with the circular track 19.

The feed rollers 7 and 8 are geared together and they, as well as the take-up roller 9, are positively rotated at the desired intervals for shifting the tympan to present a clean portion on the impression surface of the cylinder.

In order to prevent the stoppage of the supply roller 4 by the pawl lever 15 before the stoppage of the feed rollers 7, 8, and the consequent tearing of the tympan, the ratchet wheel 12 has a limited rotary yielding movement under spring tension on the journal 11 of the supply roller 4, as follows. Between the said ratchet wheel 12 and the journal 11, there is interposed a coil spring 20, the said spring having one end secured to the said ratchet wheel by a pin 21 and its other end secured to the tension adjusting cap 22 as, for instance, by providing the cap with a transverse groove 23 arranged to receive the straightened portion 24 of the outer end of said spring. This spring is so coiled that when the ratchet wheel is locked by the teeth 16 of the pawl lever 15, the spring will tend to turn the journal in a direction to wind or hold back the tympan on the supply roller 4 and the said ratchet wheel and pawl lever will thereby constitute a yielding stop to the tympan. To adjust the tension of this spring to the utmost nicety so as to secure the proper effect upon the tympan, the tension adjusting cap 22 is arranged to be interlocked with the supply roller journal 11 in different rotary adjustments, as follows. The outer end of the journal 11 is provided with an annular

series of radial teeth 25 and the inner end of the cap 22 is provided with a corresponding annular series of radial teeth 26 arranged to interlock with the teeth on the end of the journal. The shank of an axially arranged elongated bolt 27 has a screw-threaded engagement with the hole 28 in the end of the journal 11, the head of which bolt serves to lock the cap to the journal when the bolt is screwed home. This bolt is of sufficient length so that when it is unscrewed a short distance, the cap 22 may be moved outwardly away from the outer end of the journal 11 a sufficient distance to permit a rotary adjustment of the cap and thereby a tensional adjustment of the spring 20. The bolt may then be screwed home for holding the spring in such proper tensional adjustment.

20 What I claim is:

1. The combination with the impression cylinder, a shifting tympan supply roller therefor and its journal, of a ratchet wheel loosely mounted on said journal, a tension cap, the adjacent ends of the tension cap and journal being provided with annular series of teeth arranged to be interlocked, means for securing the tension cap in its different rotary adjustments with respect to the journal, and a tension spring connecting the ratchet wheel and tension cap.

2. The combination with the impression cylinder, a shifting tympan supply roller therefor and its journal, of a ratchet wheel loosely mounted on said journal, a tension cap arranged to be interlocked with the roller journal, a bolt having a screw threaded engagement with the journal for securing the tension cap and journal in their interlocked adjustment and a tension spring connecting the ratchet wheel and tension cap.

3. The combination with the impression cylinder, a shifting tympan supply roller therefor and its journal, of a ratchet wheel loosely mounted on said journal, a tension cap, the adjacent ends of the tension cap and journal being provided with annular series of teeth arranged to be interlocked, a bolt engaging the journal for securing the tension cap in its different rotary adjustments with respect to the journal and a tension spring connecting the ratchet wheel and tension cap.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this nineteenth day of May A. D. 1908.

HOWARD M. BARBER.

Witnesses:

A. R. STILLMAN,
ARTHUR M. COTTRELL.

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