

W. EVENSEN.
 ROLL HOLDER FOR PRINTING PRESSES.
 APPLICATION FILED MAR. 9, 1908.

907,760.

Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.

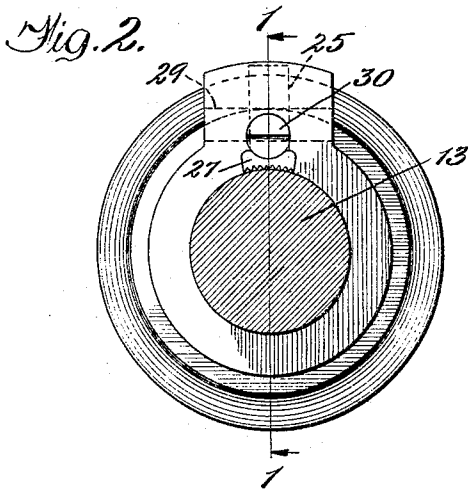
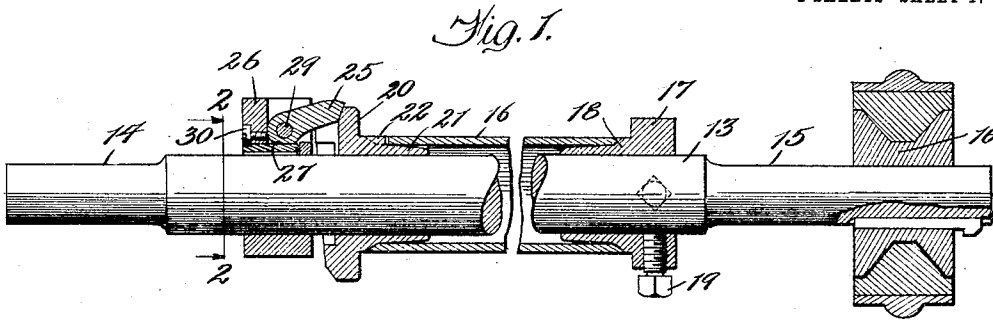


Fig. 4.

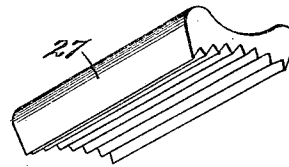


Fig. 3.

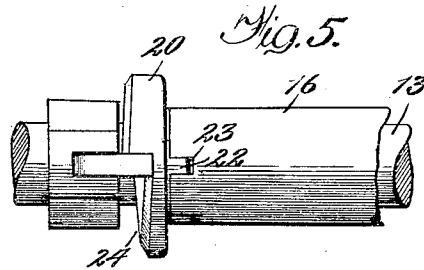
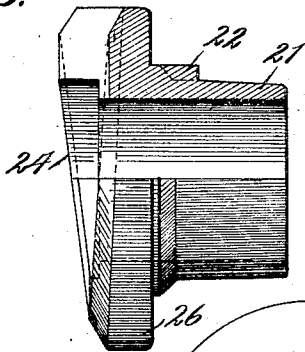


Fig. 6.

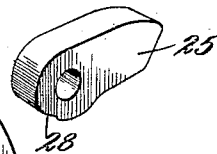
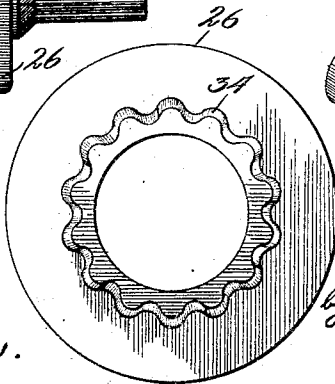


Fig. 12.



Witnesses:
J. P. Perry
G. V. Donaruso Jr.

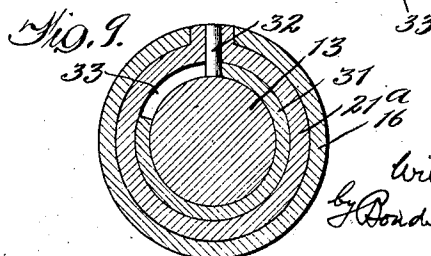
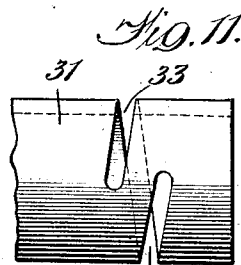
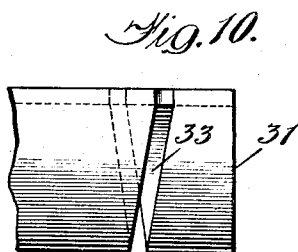
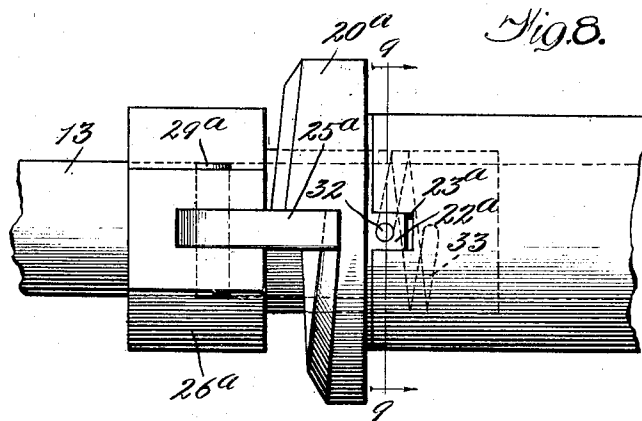
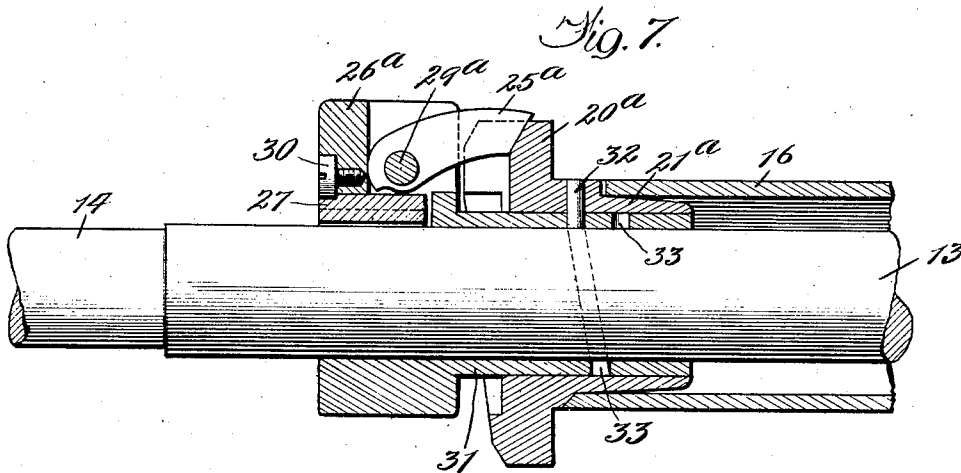
Inventor:
 William Evensen,
 by *Ronde Adams Rutledge Jackson*
 his Atty.

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 ROLL HOLDER FOR PRINTING PRESSES.
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2 SHEETS—SHEET 2.



Witnesses:
Ed. Perry
G. V. Sommers Jr.

Inventor:
 William Evensen,
 by *Rond Adams* *Petersen* *Jensen*,
 his Attys.

UNITED STATES PATENT OFFICE.

WILLIAM EVENSEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE GOSS PRINTING PRESS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ROLL-HOLDER FOR PRINTING-PRESSES.

No. 907,760.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed March 9, 1908. Serial No. 419,979.

To all whom it may concern:

Be it known that I, WILLIAM EVENSEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Roll-Holders for Printing-Presses, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to roll-holders for holding a roll or web of paper as commonly used in perfecting printing presses, and has for its object to provide a new and improved roll-holder of the general type illustrated and described in an application filed by Hans P. Husby March 29, 1907, Serial No. 365,305, by which the roll may be quickly and firmly secured upon the shaft or mandrel by which it is supported while on the press; also to provide means by which the roll-holder may readily accommodate itself to rolls of different widths or to tubes of different diameters.

I accomplish these objects as illustrated in the drawings and as hereinafter described.

That which I regard as new is set forth in the claims.

In the drawings,—Figure 1 is a partial sectional view on line 1—1 of Fig. 2, illustrating one form of my improved roll-holder; Fig. 2 is an enlarged detail, being a cross-section on line 2—2 of Fig. 1; Fig. 3 is a partial sectional view of the movable head which engages the mandrel; Fig. 4 is a perspective view of the clamp block or shoe which engages the shaft or mandrel; Fig. 5 is a partial plan view of the parts shown in Fig. 1; Fig. 6 is a perspective view of the clamping lever; Fig. 7 is a view, partially in longitudinal section, showing a modified construction; Fig. 8 is a plan view of the same; Fig. 9 is a cross-section on line 9—9 of Fig. 8; Figs. 10 and 11 are plan views of the sleeve which connects the movable head with the clamping devices; and Fig. 12 is a view, showing a corrugated head, such as is used with tubes made of paper.

As is well understood in the art, a web or roll of paper is usually wound upon a hollow tube or core, which in some cases is a metal cylinder and in other instances is a paper tube. In mounting the roll of paper on the press it is placed upon a mandrel which is supported by suitable supporting devices, the tube or core of the roll of paper being se-

cured to the mandrel by means of heads which fit into its ends and are themselves secured to the mandrel. The tension upon the web is regulated by applying friction in the form of brakes to the mandrel or shaft.

In the construction of the Husby application above referred to one of the heads is secured fixedly, by a set-screw or otherwise, to the mandrel, the other head being adjustable to accommodate rolls of different widths, and mechanism is provided for clamping the head in different positions of adjustment and also for forcing the movable head toward the core which it is to engage.

My present invention involves the same general features of construction, but in addition includes certain improvements, notably a construction by which the rotation of the roll of paper automatically acts to operate clamping mechanism which engages the mandrel and holds the movable head against movement away from the core and also automatically adjusts the position of the movable head so that it more firmly engages the core.

My invention also includes other features, which will be hereinafter pointed out.

It will be understood that while it is designed principally for use in connection with printing-press rolls, it may be employed in any other situation where it is desired to connect a tube or core with a shaft on which it is mounted under conditions similar to those which obtain in the use of rolls of paper in printing presses.

Referring to the drawings,—13 indicates the usual shaft or mandrel having journals 14—15 at its ends.

16 indicates a tension-pulley of any suitable type, which is mounted on the mandrel at one end for controlling the tension on the web of paper.

The parts of the press or other support for the mandrel are not shown as they form no part of my present invention, and the construction of such devices is well understood. 16 indicates the tube or roll on which the web of paper or other material is wound. Said tube is frequently a metal cylinder, but sometimes is made of paper or other material. Its ends are internally beveled for a purpose which will be hereinafter stated.

17 indicates a stationary head having a

tapered sleeve 18 adapted to fit into the tube 16 and bear against the beveled portion thereof so as to fit tightly thereto. The head 17 is provided with a set-screw 19, or other equivalent means, for holding it fixedly in position on the mandrel 13.

20 indicates a movable head, which is arranged to move longitudinally of the mandrel and is provided with a tapered sleeve 21 which fits in the opposite end of the tube 16 and engages the bevel thereof so as to form a tight fit. Said head is also provided with a lug 22, as shown in Fig. 3, which enters a notch 23 in the end of the tube 16 so as to lock the tube and head together. The outer face of the head 20 is in the form of a cam or spiral, as best shown at 24 in Figs. 3 and 5, and is arranged to be engaged by a locking-lever 25 carried by a collar 26 fitted upon the mandrel adjacent to the head 20 and provided with means by which it may be locked securely to said mandrel. Such locking means is best shown in Figs. 1 and 2, from which it will be seen that said collar is provided with a locking-block 27 fitted in a suitable recess under the inner portion of the lever 25, which is cam shaped, as shown at 28 in Fig. 6, and is mounted on a pivot 29 carried by the collar, as shown in Fig. 1. The arrangement is such that when the outer end of the lever 25 is raised its cam portion 28 forces the locking-block 27 against the mandrel 13, binding it tightly in engagement therewith, thereby securely locking the collar 26 to the mandrel. The locking-block 27 is held in position in the collar 26 by means of a screw 30 shown in Fig. 1.

The operation of the form of apparatus thus far described is as follows: The stationary head 17 being secured on the mandrel in the proper position, the tube 16 is put in place and the removable head 20 fitted to it with the lug 22 in the notch 23. The locking-collar 26 is then placed upon the mandrel close to the outer face of the head 20, the outer end of the lever 25 being in engagement with the lower portion of the spiral 24, as shown in Fig. 5. When the roll of paper is rotated, as in unwinding, it rotates the head 20 to a greater or less extent upon the mandrel, thereby moving said head relatively to the lever 25 which rides up on the spiral 24 and is therefore forced outward, causing it to press the locking-block 27 more tightly against the mandrel and consequently firmly secures the locking-collar 26 to the mandrel. This also forces the movable head 20 toward the stationary head 17 so as to tightly bind the tube 16 between the two heads. The movable head is thus tightly clamped between the locking-collar 26 and the stationary head 17 so that all the parts are locked together and to the mandrel. It will be seen that the longitudinal movement of the movable head is automatically

accomplished by the unwinding of the paper, and so far as I am aware this is broadly new.

For some purposes it is desirable that the locking-collar and movable head be connected together, particularly for convenience in handling, and in Figs. 7 to 11 I have shown such an arrangement. In the construction shown in said figures the tube 16 and mandrel 13 are the same as in the construction already described, and so also are the other parts, which are indicated by corresponding numerals with the exponent "a", except that the locking-collar 26^a is provided with a sleeve extension 31 upon which the movable head 20^a is fitted and to which it is connected by a pin 32 which is carried by the sleeve 21^a and enters a spiral slot 33 in the sleeve 31. The pitch of the slot 33 is such as to permit the necessary longitudinal movement of the head 28 when the head is jammed over against the tube 16. The sleeve 31 serves to connect the parts so that they may be handled as one, but does not interfere with the operation in the manner already described. The locking-collar 26 and the longitudinally-movable head together form a clamp which non-rotatably engages the shaft or mandrel and operates automatically, when the roll is rotated, to tightly clamp the tube and lock it to the mandrel. The clamping device may be adapted to rolls of different lengths and tubes of different diameters.

In Fig. 12 I have shown a movable head in which the tapered sleeve is corrugated, as shown at 34, to adapt it to engage and grip a paper tube or core.

My invention is not restricted to the specific details of the construction described, except in so far as they are particularly claimed, but includes generically the subject-matter of the broader claims.

That which I claim as my invention, and desire to secure by Letters Patent, is,—

1. A clamping-device for roll-holders, comprising a longitudinally-movable head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to engage said shaft, and means operated by the rotation of the roll for automatically actuating said clamping means.
2. A clamping-device for roll-holders, comprising a longitudinally-movable head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to be actuated to engage said shaft, said head being capable of limited rotation relatively to said clamp, and means operated by the rotation of the roll for automatically actuating said clamp to engage the shaft.
3. A clamping-device for roll-holders, comprising a longitudinally-movable head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to be actuated to engage said shaft,

and means operated by the rotation of the roll for automatically forcing said head and clamp apart.

4. A clamping - device for roll - holders, comprising a longitudinally - movable head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to be actuated to engage said shaft, and means operated by the rotation of the roll for automatically actuating said locking-means and forcing said clamp and head apart.

5. A clamping - device for roll - holders, comprising a longitudinally - movable head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to engage said shaft, means operated by the rotation of the roll for automatically actuating said clamping means, and means connecting said clamp and head together.

6. A clamping - device for roll - holders, comprising a longitudinally - movable head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to be actuated to engage said shaft, said head being capable of limited rotation relatively to said clamp, means operated by the rotation of the roll for automatically actuating said clamp to engage the shaft, and means connecting said clamp and head together.

7. A clamping - device for roll - holders, comprising a longitudinally - movable head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to be actuated to engage said shaft, means operated by the rotation of the roll for automatically forcing said head and clamp apart, and means connecting said clamp and head together.

8. A clamping - device for roll - holders, comprising a longitudinally - movable head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to be actuated to engage said shaft, means operated by the rotation of the roll for automatically actuating said locking-means and forcing said clamp and head apart, and means connecting said clamp and head together.

9. A clamping - device for roll - holders, comprising a head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to engage said shaft, and means connecting said clamp and head together and permitting them to move apart to a limited extent.

10. A clamping - device for roll - holders, comprising a head adapted to be mounted on a shaft, a clamp adjacent to said head and having means adapted to engage said shaft, and means connecting said clamp and head

together and permitting them to move apart to a limited extent and also permitting said head to rotate relatively to said clamp.

11. A clamping - device for roll - holders, comprising a head adapted to be mounted on a shaft, said head having means adapted to engage one end of a roll tube or core, the outer face of said head being in the form of a cam, a collar adjacent to said outer face, a lever carried by said collar, and means actuated by said lever for engaging the shaft to lock the collar thereto, said lever being adapted to engage said cam face of the head.

12. A clamping - device for roll - holders, comprising a head adapted to be mounted on a shaft, said head having means adapted to engage one end of a roll tube or core, the outer face of said head being in the form of a cam, a collar adjacent to said outer face, a lever carried by said collar, and means actuated by said lever for engaging the shaft to lock the collar thereto, said lever being adapted to engage said cam face of the head, said collar having a sleeve upon which said head is rotatably mounted and is movable longitudinally.

13. A clamping - device for roll - holders, comprising a head adapted to be mounted on a shaft, said head having means adapted to engage one end of a roll tube or core, the outer face of said head being in the form of a cam, a collar adjacent to said outer face, a lever carried by said collar, means actuated by said lever for engaging the shaft to lock the collar thereto, said lever being adapted to engage said cam face of the head, said collar having a sleeve having a spiral slot, and a pin connected to said head and moving in said slot.

14. A clamping - device for roll - holders, comprising a shaft and heads carried thereby, one of said heads being movable longitudinally of said shaft, a clamp having locking means adapted to be actuated to engage said shaft, and means automatically operated by the rotation of the roll for operating said locking means to cause them to lock said clamp to said shaft.

15. A clamping - device for roll - holders, comprising a shaft and heads carried thereby, one of said heads being movable longitudinally of said shaft, a clamp having locking means adapted to be actuated to engage said shaft, and means automatically operated by the rotation of the roll for operating said locking means to cause them to lock said clamp to said shaft and to force said clamp and movable head apart.

WILLIAM EVENSEN.

Witnesses:

J. J. WALSER, Jr.,
L. M. CAGNEY.