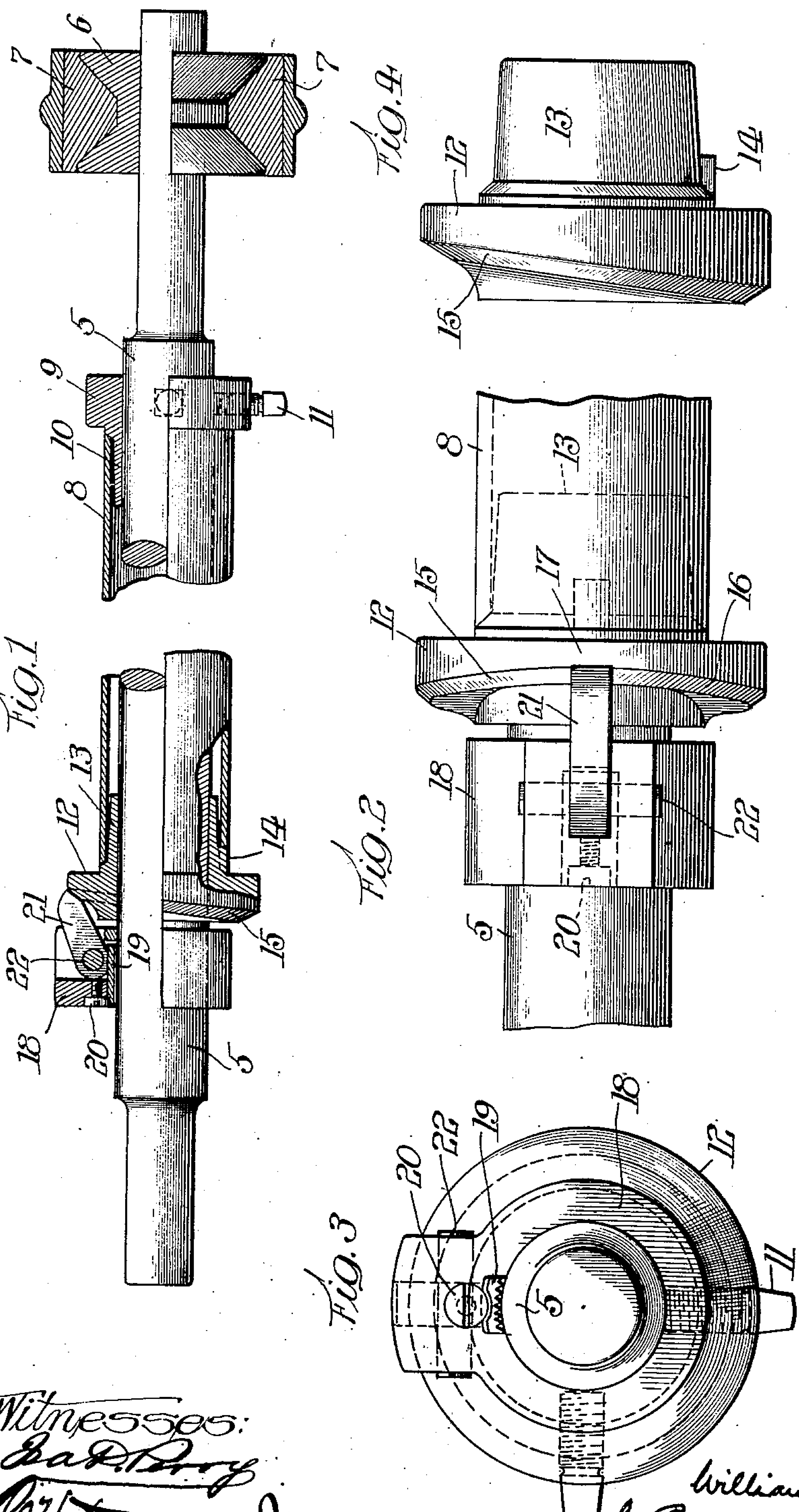
W. EVENSEN.

ROLL HOLDER FOR PRINTING PRESSES.

APPLICATION FILED MAY 9, 1908.

907,761. Patented Dec. 29, 1908.



Witnesses:
Geo. P. Perry
L. V. Domarus Jr.

Inventor:
William Evensen,
by Bond Adams Pickard & Jackson,
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. 907,761. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed May 9, 1908. Serial No. 431,868.

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 printing-presses, and has for its object to provide certain improvements in the roll-holders illustrated and described in my pending application, Serial No. 419,979, filed March 9, 1908. In my said application the roll is held between two heads, one of which is fixed on the mandrel, the other being movable toward and from it to accommodate rolls of different width, and provision is made 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. In my said prior device, however, the construction is such that the automatic clamping mechanism operates only by the rotation of the roll in one direction—that is to say, it is necessary that the roll of paper be rotated in a certain direction in order to actuate the clamping devices and consequently the device cannot always be conveniently applied to different presses. It is desirable to provide a construction by which the roll of paper may be arranged to rotate in either direction and still secure the automatic locking of the movable head to the mandrel, and this is the object of my present invention.

In the accompanying drawings,—Figure 1 is a sectional view, some parts being broken away; Fig. 2 is an enlarged detail, being a plan view of the clamping mechanism and adjacent parts; Fig. 3 is an end view, looking to the right, as shown in Fig. 1; and Fig. 4 is an enlarged edge view of the cam head which actuates the locking device.

Referring to the drawings,—5 indicates the usual shaft or mandrel, which is adapted to be applied to the press in the usual way, and is provided as usual with a tension pulley 6 and shoes 7 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.

8 indicates the usual tube or roll on which the web of paper or other material is wound and which may be a metal cylinder, or a tube of paper, or other material.

9 indicates the stationary head having a tapered sleeve 10 which fits into the tube 8, as shown in Fig. 1. The head 9 is preferably provided with a set-screw 11, or other equivalent means, for holding it fixedly in position on the mandrel 5.

12 indicates a cam head, which is movable longitudinally of the mandrel 5 and is provided with a tapered sleeve 13 which fits into the other end of the tube 8. The head 12 is preferably provided with a lug 14 which fits into a notch on the end of the tube 8 for locking the parts together.

The outer face of the head 12 is provided with oppositely-inclined portions 15—16, as best shown in Fig. 2, so that the rim or outer surface of said head is narrowest at the center, as shown at 17 in Fig. 2, and gradually widens toward a point diametrically opposite, thus forming the two oppositely-inclined bearing surfaces 15—16, which are spiral in form, so that as the cam head 12 rotates in either direction from the center 17 it will act to operate the locking mechanism, as hereinafter described.

The locking mechanism is best shown in Figs. 1 and 2 and comprises a collar 18 which fits loosely upon the mandrel 5 and is provided with a locking block 19 fitted in a suitable recess therein, as shown in Fig. 3, in such position that it may engage the mandrel 5 when pressed inward, as hereinafter described. Said locking-block is held in position by a set-screw 20, shown in Figs. 1 and 3.

21 indicates a cam locking-lever which is mounted on a pivot 22 at its inner end carried by the collar 18, as shown in Fig. 1, the outer end of said lever projecting toward the cam head 17 in position to engage the inclined faces 15—16 thereof, as shown in Figs. 1 and 2. The inner end of the lever 21 lies over the locking-block 19 and the arrangement is such that when the outer end of said lever is thrown upward its inner end, which is cam shaped, acts to force the locking-block 19 inward against the mandrel, thereby tightly locking the collar 18 thereto. This not only locks the collar 18 against rotary

movement upon the mandrel, but also prevents it from moving longitudinally thereof, with the result that owing to the inclined surfaces 15—16 of the cam head 12 said head is forced toward the stationary head 9 thereby tightly clamping the tube 8 between said heads and causing it to rotate with the mandrel. Owing to the fact that the cam head 12 is provided with the opposite inclines, it will be evident that the locking mechanism is automatically operated regardless of the direction of rotation of the roll of paper, so that the device is equally well adapted for use whether the roll is rotated in one direction or the other in unwinding.

It will be understood that while my improved roll-holder 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 with the use of rolls of paper in printing presses.

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 in either direction 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 in either direction 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 in either direction 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 in either direction for automatically actuating said locking-means and forcing said clamp and head apart.

5. 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 having opposite inclines, 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 thereof, said lever being adapted to engage said inclines.

6. 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 in either direction for operating said locking means to cause them to lock said clamp to said shaft.

7. 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 in either direction 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.,
GEO. A. EDDY.