

F. M. KENNEDY.
 CHUCK FOR PAPER ROLLS OF PRINTING PRESSES.
 APPLICATION FILED NOV. 29, 1910.

1,001,861.

Patented Aug. 29, 1911.

2 SHEETS-SHEET 1.

Fig. 1.

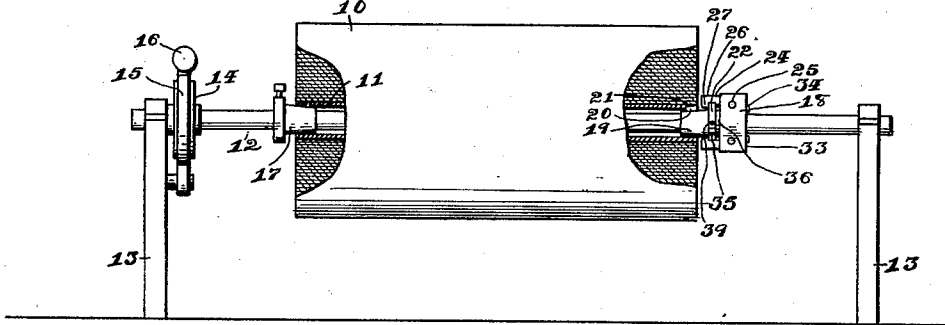


Fig. 2.

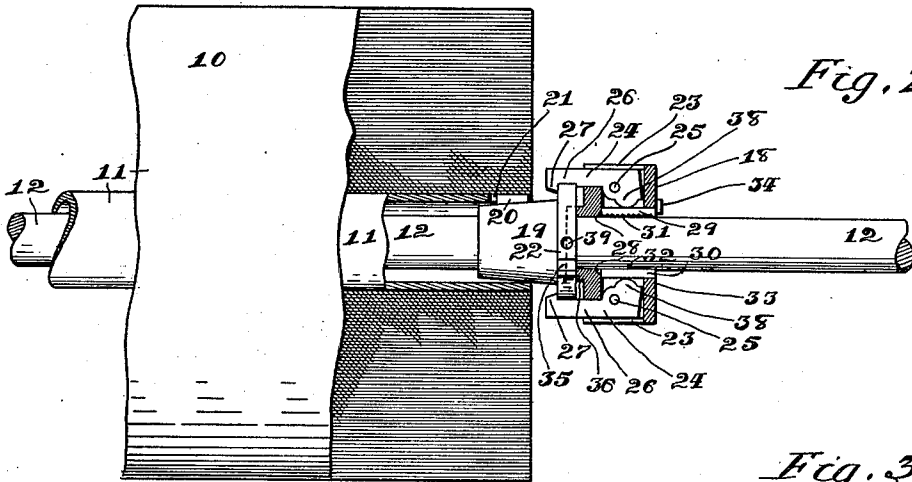
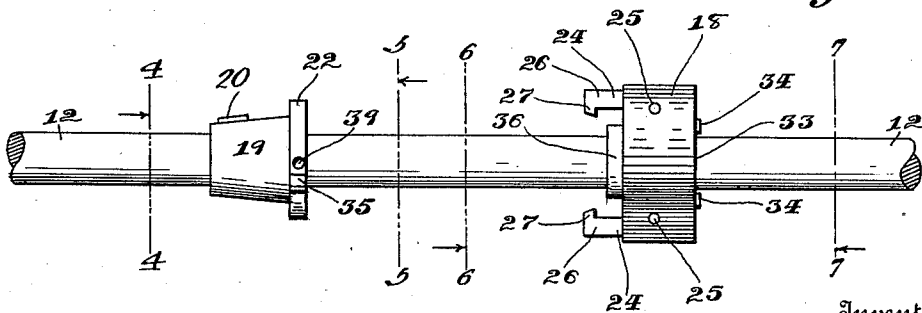


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

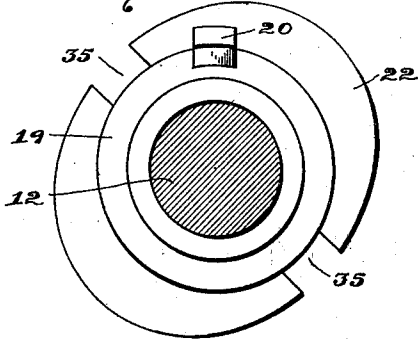


Fig. 5.

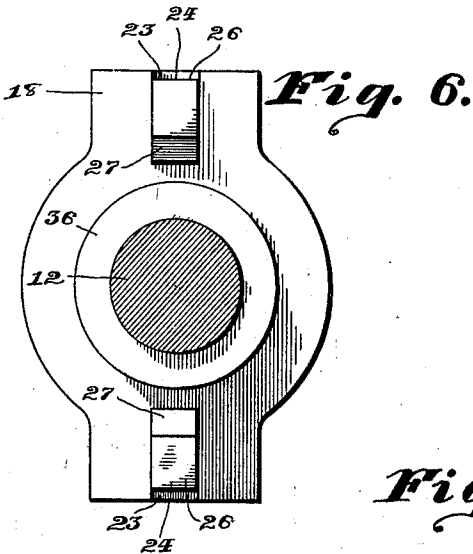
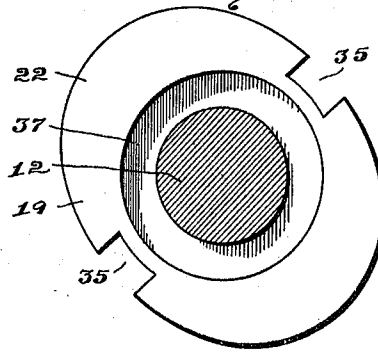


Fig. 7.

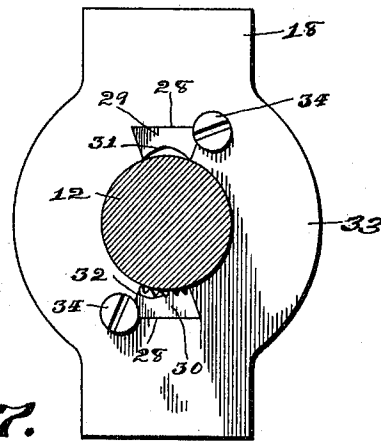
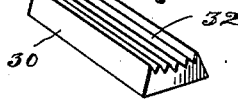


Fig. 8.



Fig. 9.



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CHUCK FOR PAPER-ROLLS OF PRINTING-PRESSES.

1,001,861.

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To all whom it may concern:

Be it known that I, FRANCIS M. KENNEDY, a citizen of the United States, residing at Oklahoma city, in the county of Oklahoma and State of Oklahoma, have invented certain new and useful Improvements in Chucks for Paper-Rolls of Printing-Presses, of which the following is a full, clear, and exact description, reference being had to the annexed drawings.

In a "rotary" printing-press the paper is supplied in a roll of continuous length, this roll being mounted on a shaft so that the printing mechanism may draw the paper from it. In order to maintain the paper in a taut condition while being drawn from the roll, said roll is secured tightly to its shaft, and the latter is acted upon by braking mechanism. The rolls of paper, as they are brought to the press, are wound upon a tubular core, usually common gas-pipe, and a chuck is employed for quickly and detachably securing said tubular core on the shaft. A device for this purpose is shown in Letters Patent No. 907,760, issued to William Evensen on the 29 day of December, 1908. A disadvantage found in the Evensen chuck or holder is that in action the two principal or head portions 20 and 26 are forced apart on the shaft or mandrel 13, with the result that the head 26 ceases to have its clamping mechanism actuated by the head 20 and finally releases its grip on said shaft.

An object, therefore, of this invention is to overcome this disadvantage.

Another object is to provide a chuck which will lock the roll of paper against revolving movement on the shaft in either direction.

Other objects and advantages of the invention will be set forth in the ensuing description.

Referring to the accompanying drawings: Figure 1 is an elevation view, partly in section, of a roll of paper mounted on the shaft in position for use, the figure showing the bearings and braking or tension mechanism for said shaft, and showing the improved chuck in use. Fig. 2 is an enlarged fragmental elevation view, partly in section,

taken in the same direction as Fig. 1. Fig. 3 is a fragmental elevation view, in the same direction and on same scale as Fig. 2, showing the shaft with the two principal or head portions of the chuck separated thereon. Fig. 4 is a sectional view, on still larger scale, taken on the line 4—4 of Fig. 3. Fig. 5 is a sectional view, on same scale as Fig. 4, taken on the line 5—5 of Fig. 3. Fig. 6 is a sectional view on same scale, taken on the line 6—6 of Fig. 3. Fig. 7 is a sectional view on same scale, taken on the line 7—7 of Fig. 3. Figs. 8 and 9 are perspective views showing the gripping faces of two clamping blocks.

Referring to the several figures, in all of which like characters of reference designate like parts, the roll of paper 10 herein shown is wound onto the core 11, this core being mounted on the shaft 12. This shaft 12 is mounted in the usual bearings 13. One end of the shaft 12 is provided with the tension-wheel 14, and said tension-wheel is frictionally embraced by the two-part yieldable band 15 which is held from revolving with said tension-wheel by being secured to the bearing 13 at its end of the shaft 12. This band 15 is provided with a hand-screw 16 for producing and adjusting the force of its frictional engagement with the tension-wheel 14. The parts thus described are not unlike those found in other mechanism of this kind.

In mounting the roll of paper 10 and its tubular core 11 on the shaft 12, the usual cone-shaped collar 17 is mounted tightly on said shaft and enters one end of said core. The opposite end of the tubular core 11 is secured to the shaft 12 by the improved chuck mechanism. This chuck consists, in part, of a main head 18 mounted loosely upon and adapted to detachably engage the shaft 12, and a cone-shaped head 19 adapted to operate in conjunction with said main head and enter the end of the tubular core 11. The head 19 has a projecting stud 20 on its cone portion, which engages a notch 21 in the end of the core 11, and also has at the base of said cone portion a radially-projecting elliptical flange 22 which acts as a cam

surface for purposes later shown. This head 19 is loose on the shaft 12 at all times, except as held against revolving movement thereon by its engagement with and influence upon the parts carried by the main head 18. In the further arrangement of parts, the main head 18 is provided at diametrically opposite points with slots or kerfs 23, these slots or kerfs lying in the same plane as the line of axis of the shaft 12. Each slot or kerf has pivoted within it a locking-lever 24 which is held therein by a pivot-pin 25. The longer arm 26 of each locking-lever 24 projects out of its slot 23 in the direction of the line of axis of the shaft 12 and past the edge of the flange 22 of the head 19, the end of said arm having an inwardly-hooked extension 27 adapted to engage said flange and hold said head 19 and the head 18 from sliding apart on said shaft. A part of each slot or kerf 23 is cut in through the head 18 and into communication with a dovetailed chamber 28, which is formed in the surface of the inner bore of said head, one of said chambers containing the gripping-block 29 shown in Fig. 8 and the other the gripping-block 30 shown in Fig. 9.

The gripping-block 29 has its gripping face provided with teeth 31 so formed as to resist sliding movement of the head 18 longitudinally of the shaft 12, and the gripping-block 30 with teeth 32 of a character to resist rotative movement, the teeth of said gripping-block 30, however, being formed slightly spiral or after the manner of screw-threads so that any possible rotation of the head 18 on the shaft 12 will cause said head to move toward the roll of paper 10 and press the cone portion of the head 19 more forcibly into engagement with the core 11.

The dovetailed chambers 28 extend to the outer face 30 of the main head 18, to allow inserting and removal of the gripping blocks 29 and 30, and the latter are held in said chambers by screws 34.

As best shown in Fig. 4, the flange 22 of the head 19 is in the form of an ellipse, and is provided with notches 35 at the ends of its minor diameter line. These notches 35 allow the hooked extensions 27 of the locking levers 24 to slip through the flange 22 as the heads 18 and 19 are brought together, a slight rotative movement of one head then moving the hooked extensions out of line with their notches where they will hold the heads in assemblage by engagement of said flange. The main head 18 is provided axially with a short sleeve portion 36, which extends into a corresponding counterbore 37 of the other head 19, this arrangement, together with the engagement of the hooked extensions 27, holding the heads together as a whole when removed from the shaft 12. In

putting the roll of paper 10 onto the shaft 12, its tubular core 11 is slipped onto said shaft and into centering engagement with the stationary cone member 17 aforesaid. The head 19 of the chuck is next slipped onto the shaft 12 and into centering engagement with the tubular core 11 of the roll of paper 10. With the head 19 thus set in place, its stud 20 engages the slot 21 in the end of the tubular core 11, as previously explained. The head 18 is next slipped onto the shaft 12 and into engagement with the head 19, the hooked extensions 27 of the locking-levers 24 passing freely through the notches 35 in the flange 22 of said head 19. When the roll of paper 10 begins to revolve in either direction, it revolves the head 19 until the arms 26 of the locking levers 24 are forced outward by the sliding engagement of diametrically larger portions of the elliptical flange 22. This forcing of the arms 26 of the levers 24 outward causes the inner and shorter arms 38 of said levers to force the gripping blocks 29 and 30 into gripping engagement with the shaft 12, thus forcing said shaft to rotate with the roll of paper against the braking engagement of the yield-able band 15.

The head 19 is provided with one or more holes 39, into which a bar or lever, not shown, may be inserted to loosen the engagement of the flange 22 with the arms 26.

The foregoing being a full, clear, and exact description of the invention, what I claim and desire to secure by Letters Patent is:—

1. A chuck for paper rolls, comprising a movable head adapted to be mounted on a shaft, a second head adapted to be mounted on the shaft adjacent to said first head, said second head having an elliptical flange, a lever fulcrumed in and projecting from the first head past the edge of said elliptical flange intermediate the ends of the major diameter of said flange, said lever having a hook engaging said flange to retain the second head in assemblage with the first head, said flange having a notch at the end of its minor diameter to allow passage of the hook of said lever, and means whereby movement of the lever outward clamps the first head to the shaft.

2. A chuck for paper rolls, comprising a movable head adapted to be mounted on a shaft, a second head adapted to be mounted on the shaft adjacent the first head and engage the paper roll, the second head having an elliptical flange adjacent the first head, a lever extending from said first head past the edge of said flange at a point intermediate the ends of its major diameter, said lever having a hook adapted to engage the flange and hold the heads in assemblage, the flange

having a notch at the end of its minor diameter to allow passage of said hook, the bore of the second head being counterbored, the first head having a sleeve portion engaging the counterbore of said second head, a gripping-block carried by the first head and adapted to be forced into gripping engagement with the shaft by movement of said lever, said gripping-block having teeth extending spirally with respect to the shaft. 10
Witness my hand this 3 day of September, 1910.
FRANCIS M. KENNEDY.
Witnesses:
N. H. LINGENFELTER,
R. E. ARMSTRONG.

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