No. 833,481. PATENTED OCT. 16, 1906.

B. PAUGH.

MANDREL.

APPLICATION FILED MAY 11, 1906.

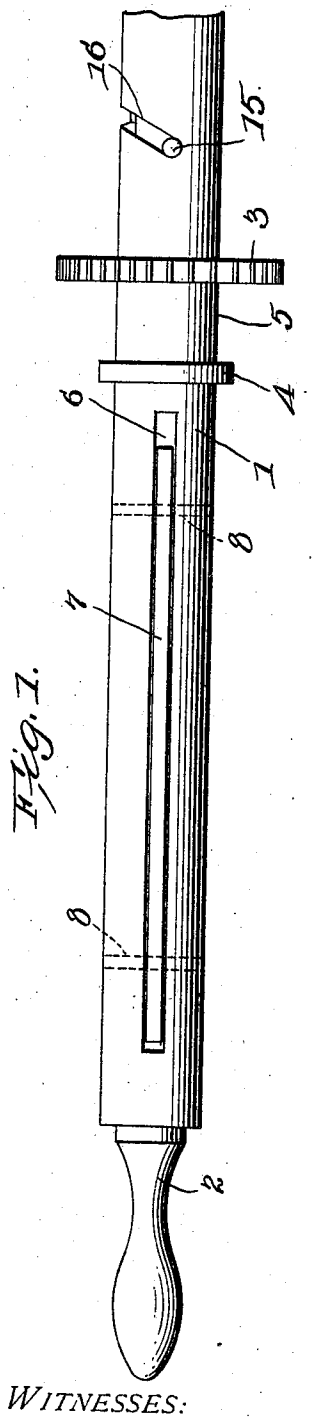


Fig. 1.

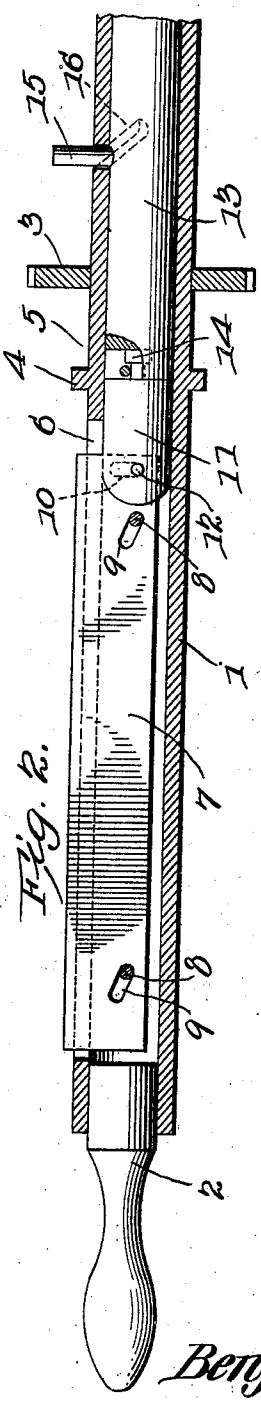


Fig. 2.

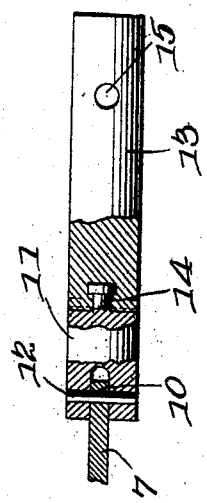


Fig. 3.

WITNESSES:

E. F. Stewart

V. Brunnemann

Benjamin Paugh,

INVENTOR.

By C. A. Snow & Co.

ATTORNEYS

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BENJAMIN PAUGH, OF PARSONS, WEST VIRGINIA.

MANDREL.

No. 833,481. Specification of Letters Patent. Patented Oct. 16, 1906.

Application filed May 11, 1906. Serial No. 316,314.

To all whom it may concern:

Be it known that I, BENJAMIN PAUGH, a citizen of the United States, residing at Parsons, in the county of Tucker and State of West Virginia, have invented a new and useful Mandrel, of which the following is a specification.

This invention has relation to mandrels especially adapted to be used for winding rolls of paper; and it consists in the novel construction and arrangement of its parts as hereinafter shown and described.

The object of the invention is to provide a mandrel with a web which is adapted to be laterally extended with relation to the exterior surface of the mandrel, so that when the paper is rolled upon the mandrel and the said web is extended that the central opening of the roll of paper will be of greater diameter than that of the mandrel proper. Consequently when the roll is completed the said web may be withdrawn within the mandrel, and the said roll of paper may be readily slipped from the end of the mandrel. Suitable mechanism is provided for the extending or withdrawing of the web with relation to the exterior surface of the mandrel.

In the accompanying drawings, Figure 1 is a top plan view of the mandrel. Fig. 2 is a longitudinal sectional view of the mandrel, and Fig. 3 is a horizontal sectional view of a portion of the web and its immediate operating connections.

Mandrel 1 is hollow and is provided at one end with a suitable handhold 2. The gear-wheel 3 is located upon the said mandrel, or any other suitable means of rotating the same may be provided. The collar 4 is also located upon the exterior surface of the mandrel, and the surface 5 is located between the collar 4 and the gear-wheel 3 and affords a bearing-surface for any suitable pattern of bearing. (Not shown in the drawings.) The mandrel 1 is provided with a longitudinally-extending slot or opening 6. The outer edge of the web 7 is located in said opening when the said web is withdrawn and passes through the said opening when the said web is projected with relation to the outer surface of the mandrel. The pins 8 8 extend transversely across the diameter of the mandrel 1, and the web 7 is provided with the inclined perforations 9, which receive the said pins 8. One end of the web 7 is provided with the vertically or transverse extending elongated perforation 10. The shank 11 is located within the mandrel 1 and is provided with a transverse-extending pin 12, which passes through the perforation 10 of the said web 7. The said shank 11 is adapted to move longitudinally, but is held against rotation. The said web 7 is adapted to move longitudinally and laterally simultaneously, but is held against rotation with relation to the mandrel 1 by means of the edges of the slot 6. The end of the shaft 13 is swiveled to the end of the shank 11. Any suitable joint, such as 14, may be employed for this purpose. The shaft 13 is also housed within the mandrel 1. The shaft 13 is provided with a laterally-extending pin 15, which passes through the spirally-inclined slot 16, located on the side of the mandrel 1.

The operation of the device is as follows: When it is desired to project the edge of the web 7 with relation to the exterior surface of the mandrel 1, the pin 15 is moved through the length of the slot 16. The spiral inclination of the said slot moves the shaft 13 longitudinally and simultaneously rotary with relation to the mandrel 1. The shank 11 is slid longitudinally within the mandrel 1. The web 7 moves longitudinally and simultaneously laterally with relation to the mandrel, and thus its outer edge is projected through the slot 6. The movement of the web 7, above indicated, is accomplished by means of the inclination of the perforations 9, receiving the fixed transversely-extending pins 8. The laterally-extending perforation 10, receiving pin 12 of the shank 11, permits of the lateral movement of the web 7 with relation to the said shank. In order to withdraw the edge of the web 7 within the slot 6 of the mandrel 1, the operation above described is reversed.

Having described my invention, what I claim is new, and desire to secure by Letters Patent, is—

1. A mandrel having in its side an opening, a web located in said opening and adapted to be projected through the same, said web having inclined perforations, pins extending transversely across the mandrel and through said inclined web-perforations, a shank attached to the end of said web, a shaft swiveled to the end of said shank, a pin located upon said shaft, said mandrel having a spiral perforation receiving said pin, said shaft and said shank being housed within the mandrel.

2. A mandrel having a longitudinally-ex-

tending opening, a web located in said opening and adapted to be projected through the same, said web having inclined perforations, transversely-extending pins located in the mandrel and passing through said web-perforations, said web having at one end a transversely-extending perforation, a shank having a pin which passes through the last-said web-perforation, a shaft swiveled to said shank, a pin attached to said shaft, said mandrel having a spiral perforation receiving the last-said pin, the shaft and the shank being housed within the mandrel.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

BENJAMIN PAUGH.

Witnesses:

HARRY K. GRUBB,

A. D. W. STRIDELER.