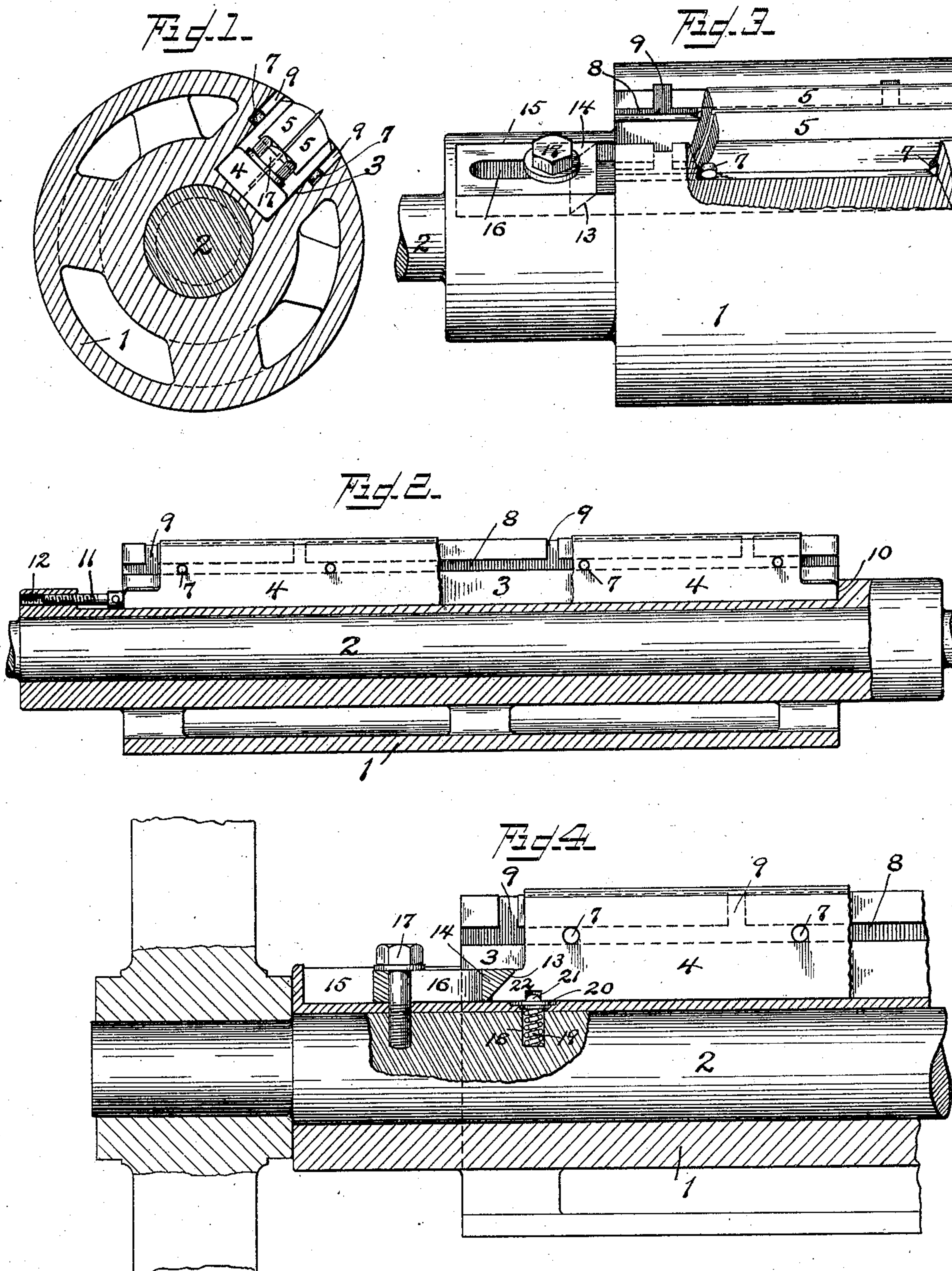


No. 877,010.

PATENTED JAN. 21, 1908.

W. SPALCKHAVER.  
CUTTING MECHANISM FOR PRINTING MACHINES.

APPLICATION FILED MAY 22, 1907.



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# UNITED STATES PATENT OFFICE.

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## CUTTING MECHANISM FOR PRINTING-MACHINES.

No. 877,010.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed May 22, 1907. Serial No. 374,993.

*To all whom it may concern:*

Be it known that I, WILLIAM SPALCKHAVER, a citizen of the United States, residing at New York city, county of Kings, and State of New York, have invented certain new and useful Improvements in Cutting Mechanism for Printing-Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in cutting mechanism for printing machines.

In high speed rotary web printing machines, the web is severed into sheets by a pair of cutting cylinders, one of the cylinders being provided with one or more knives, and the other with corresponding cutting members, usually grooved wooden strips, called "cutting woods". In these machines, the knives are mounted in metallic boxes, which boxes are located in recesses in the cylinders and secured therein by bolts or nuts. It sometimes happens that either the nuts become loose,—which cannot be readily detected on account of the high speed at which the cylinders are run,—or the bolts break, and, in either case, the knife boxes are liable to fly out of the cylinders.

This invention has for its object to provide an improved construction for holding the knife carrying member of the cutting mechanism of a printing machine securely in position and in such a way that it is not liable to be thrown out by such loosening of the parts as will occur when the mechanism is being run.

With this and other objects in view, the invention consists in certain parts, improvements and combinations which will be hereinafter described and pointed out.

Referring to the drawings—Figure 1 illustrates a cross section of the knife carrying cylinder of the cutting mechanism of a printing machine. Fig. 2 is a longitudinal section of the cylinder illustrated in Fig. 1, certain parts being shown in elevation. Fig. 3 is an end elevation of a modified form of cutting cylinder embodying the invention, certain parts being broken out to illustrate the construction. Fig. 4 is a longitudinal section of the construction shown in Fig. 3, illustrating an additional feature of construction which may be employed.

Referring to the drawings, which illus-

trate one embodiment of the invention, 1 indicates the knife carrying cylinder of a pair of cutting cylinders, this cylinder being mounted on a shaft 2 which will be supported in the usual manner in the printing machine. The cylinder is provided with a longitudinal groove or recess, indicated at 3, in which the cutting member is located.

The cutting member may be somewhat varied in construction, but may consist, as shown, of a metallic box, indicated at 4, this box serving to support woods 5 in which the knife is located, the knife being secured in the box in any desired manner.

In order to retain the cutting member in the cylinder, adjoining faces of the groove and knife-carrying member will be provided with studs and holding grooves and entry slots. In the particular construction illustrated, each side of the box 4 is provided with a series of studs 7, these studs being cast or otherwise secured to the sides of the box. Each of the faces of the recess in the cylinder is provided with a holding groove, indicated at 8, which may extend from end to end of the recess, if desired, and may be provided with entry slots, indicated at 9.

In order to assemble the parts, the studs 7 are passed through the entry slots 9 until they reach the longitudinal grooves 8, after which the member is slid endwise.

Means will be provided for preventing the cutting member from moving endwise so as to permit the studs to be disengaged from the holding grooves. Two forms of holding devices are shown. In the construction illustrated in Fig. 2, the longitudinal recess of the cylinder is provided with a shoulder, indicated at 10, against which one end of the cutting member abuts. The other end of the cutting member is engaged by a screw provided at 11, this screw engaging a threaded recess 12 formed in one of the cylinder hubs.

In the construction illustrated in Figs. 3 and 4, the cutting member has one of its ends beveled, as indicated at 13, and this beveled face is engaged by a correspondingly beveled face on a locking block 14, this block being located in a recess 15, in one of the cylinder hubs. This block may be slotted, as indicated at 16, and may be held in position by a screw, as 17.

If desired, the bottom of the recess 3 may be provided, as indicated in Fig. 4, with a



series of sockets 18 in which are located springs 19, these springs bearing against the under side of a small plate 20, having locking heads 21 thereon. The under side of the cutting box, when this construction is employed, will be provided with small recesses 22 which the heads 21 engage. When this construction is employed, the act of placing the cutting member in position compresses the springs 19. These springs, therefore, exert a lever action which causes the studs 7 to bind somewhat in the grooves 8, and the heads 21 on the plates assist in preventing the knife-carrying member from moving endwise.

Changes and variations may be made in the construction by which the invention is carried into effect. The invention is not, therefore, to be restricted to the particular construction herein described and illustrated.

What I claim is:—

1. In a cutting mechanism for printing machines, the combination with a cutting cylinder having a longitudinal recess therein, of a cutting member, the adjoining faces of the member and groove having entry and holding slots and studs arranged to engage the slots, and means for preventing the member from shifting endwise to disengage the studs from the slots, substantially as described.

2. In a cutting mechanism for printing machines, the combination with a cutting cylinder having a longitudinal recess therein, of a cutting member, the adjoining faces of the member and groove having entry and holding slots and studs arranged to engage the slots, and means, including a screw, abutting against the end of the member for preventing it from shifting endwise to disengage the studs from the slots, substantially as described.

3. In a cutting mechanism for printing

machines, the combination with a cutting cylinder having a longitudinal recess therein, the face or faces of the recess being provided with a holding groove and slots leading from the circumference of the cylinder into said grooves; a cutting member, including a knife and a metallic knife holding box, studs on the box arranged to engage the slots and grooves, and means for preventing the box from shifting endwise to disengage the studs from the grooves, substantially as described.

4. In a cutting mechanism for printing machines, the combination with a cutting cylinder having a longitudinal recess therein, the face or faces of the recess being provided with a holding groove and slots leading from the circumference of the cylinder into said grooves, a cutting member, including a knife and a metallic knife holding box, studs on the box arranged to engage the slots and grooves, and means, including a screw, abutting against the end of the cutting member, for preventing the box from shifting endwise to disengage the studs from the grooves, substantially as described.

5. In a cutting mechanism for printing machines, the combination with a cutting cylinder having a longitudinal recess therein, a cutting member located in the recess, the adjoining faces of the member and recess being provided with interlocking studs, slots and grooves, spring controlled locking devices located in the recess and engaging the member, and means engaging the end of the locking member for preventing it from moving endwise, substantially as described.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

WILLIAM SPALCKHAVER.

Witnesses:

F. W. H. CRANE,  
LOUIS ROEHM.