

J. GILLESPIE.

Binder for Roll-Couplings.

No. 159,814

Patented Feb. 16, 1875.

Fig. 2.

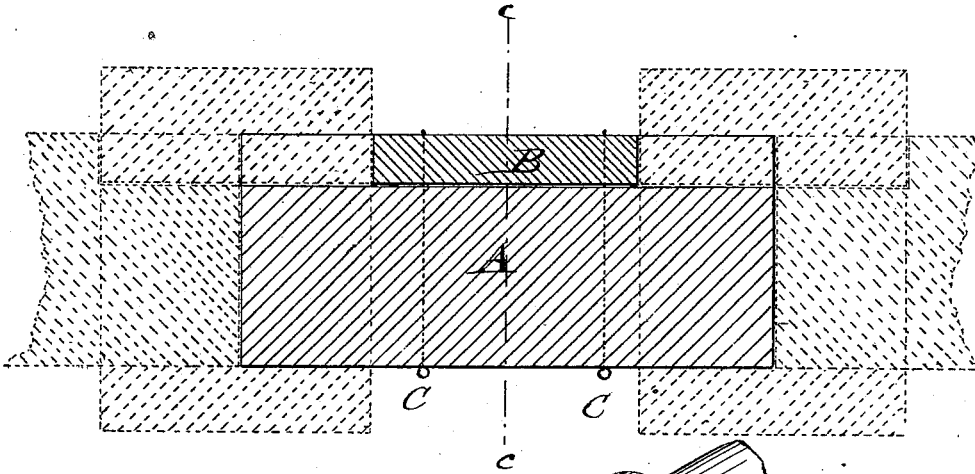


Fig. 1.

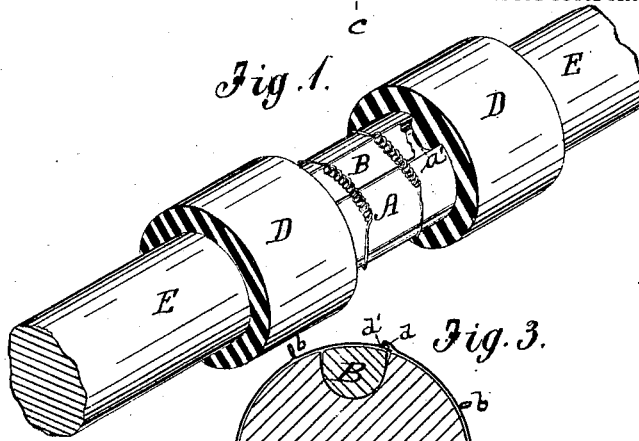


Fig. 3.

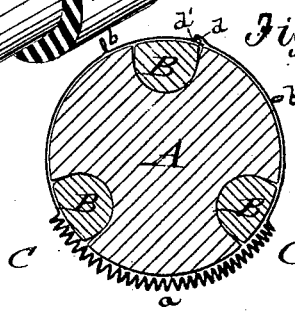
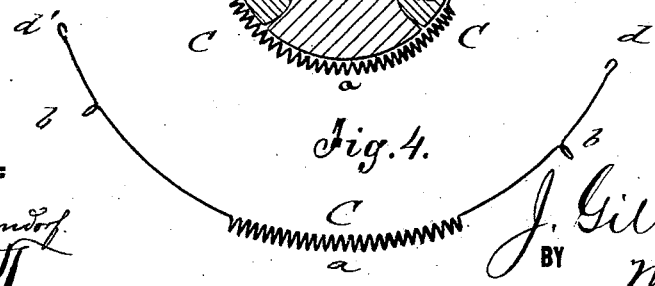


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES GILLESPIE, OF CLEVELAND, OHIO, ASSIGNOR TO HIMSELF AND
WILLIAM GARRETT, OF SAME PLACE.

IMPROVEMENT IN BINDERS FOR ROLL-COUPPLINGS.

Specification forming part of Letters Patent No. 159,814, dated February 16, 1875; application filed
October 31, 1874.

To all whom it may concern:

Be it known that I, JAMES GILLESPIE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Binder for Coupling Rolls, of which the following is a specification:

In the accompanying drawing, Figure 1 is a perspective view, showing a roll-coupling and the application of the improved binder. Fig. 2 is a sectional elevation of a coupling spindle or shaft, with stretchers and binders suitably applied thereto. Fig. 3 is a cross-section on line *c c* of Fig. 2. Fig. 4 shows the spring-binder detached.

Similar letters of reference indicate corresponding parts.

The object of my invention is to provide, in place of the expensive and unreliable leather belts used for binding together the spindle and stretchers in rolling-mills, an improved spring-binder, that may be quickly applied and taken off, so as to secure the stretchers tightly during the motion of the rolls, and preventing completely the slipping off of spindle and roll connecting boxes.

Hitherto one set of rolls has been connected to the other by a spindle and two boxes by placing one half of each box on the end of each roll, the other half on the spindle end. Blocks or stretchers of wood are placed into longitudinal grooves or recesses of the spindle, and retained therein by means of leather belts. The water that is continually used on the rolls renders the belts wet and pliable, and produces thereby the softening and stretching of the same, so that they get loose, allowing the stretchers to move, causing not only the rapid wearing out of the belt, but also detaching of the boxes. To prevent this, continual supervision and tightening of the belts is necessary, as otherwise, by the coming off of the boxes, the rim in the rolls at the time gets injured and wasted.

My invention is designed to prevent these

difficulties; and consists of a wire binder, of suitable size and strength, with spiral-spring part and hook and eye at the ends, for being tightly fastened around the roll-connecting spindle and stretchers.

In the drawing, A represents the spindle; B, the wooden blocks or stretchers, placed in the longitudinal recesses of the same. D D are the boxes or sleeves for coupling the spindle A and rolls E E together. The inwardly-projecting flanges of the boxes D have tongues *a'*, which take into the grooves in the spindle and ends of the rolls, and thus lock them together. (One of the stretchers is broken out to show the locking-connection.) The stretchers B prevent the boxes D sliding on the shaft. C C are the spring-binders, made of steel wire of suitable strength, being in their middle part bent into spiral-spring parts *a*, and having side eyes or loops *b*, serving as handles, and hook *d* at one end and eye *d'* at the other end, for being connected after stretching the binder tightly around the spindle, as indicated in Figs. 2 and 3.

The wire binders may be easily hooked and unhooked at any time, cost less than the leather belts, and are not liable to stretch or get worn out by the influence of the water. They are, therefore, handier, more durable, and in every respect more serviceable than the leather belts, giving less trouble and waste, and holding the stretchers and boxes firmly connected, overcoming the continual vibrations and motions of the rolls.

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

The wire binder C, provided with coiled portion *a*, handles *b b*, and hook and eye *d d'*, substantially as and for the purpose set forth.

JAMES GILLESPIE.

Witnesses:

N. MARKS FLICK,
A. GLEASON.