

(No Model.)

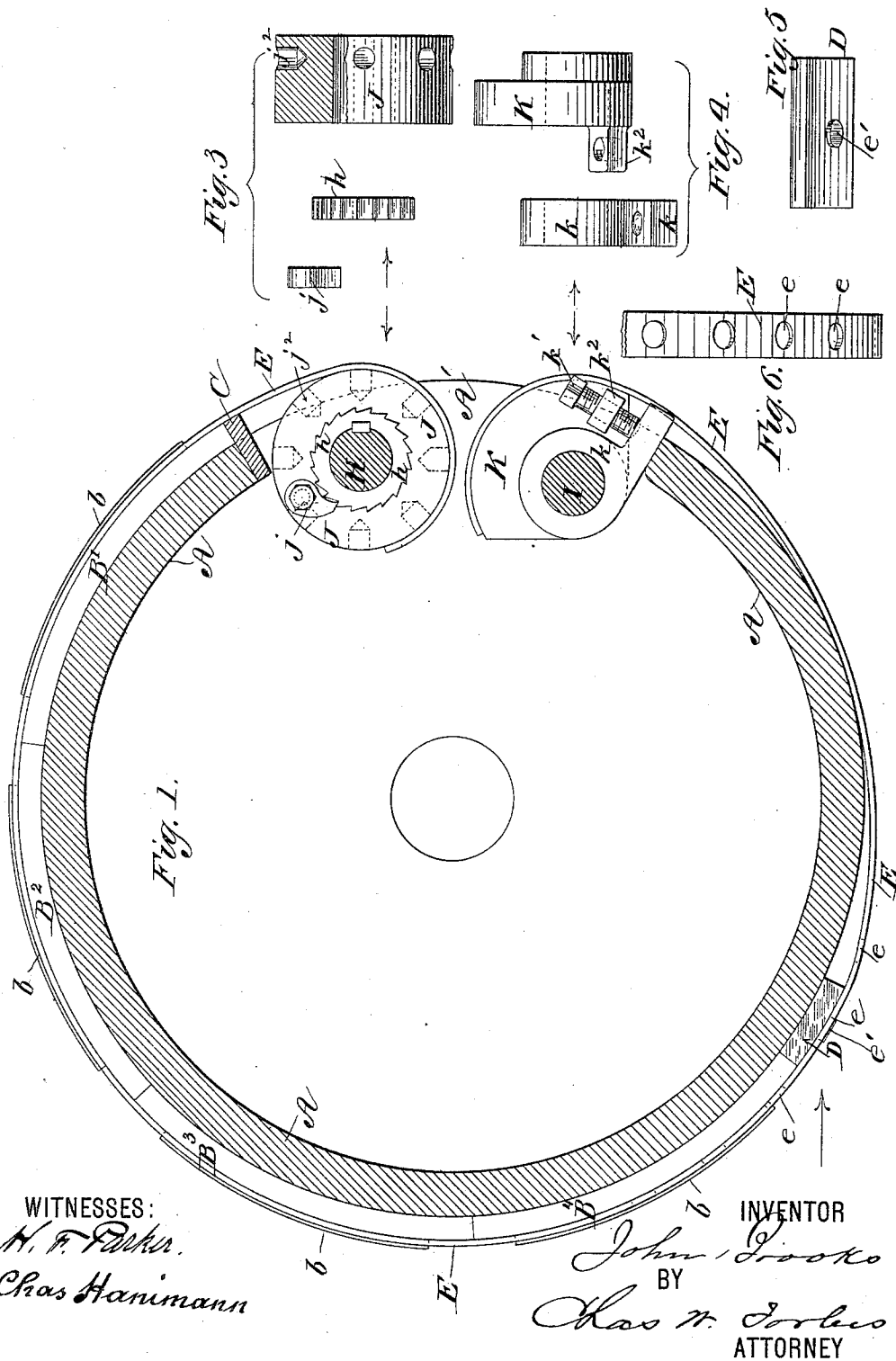
2 Sheets—Sheet 1.

J. BROOKS.

FASTENING FOR PRINTING PLATES UPON CYLINDRIC SURFACES.

No. 433,232.

Patented July 29, 1890.



WITNESSES:

H. P. Parker.

Chas Harimann

INVENTOR

John, Brooks

BY

Chas. M. Torles
ATTORNEY

ATTORNEY

(No Model.)

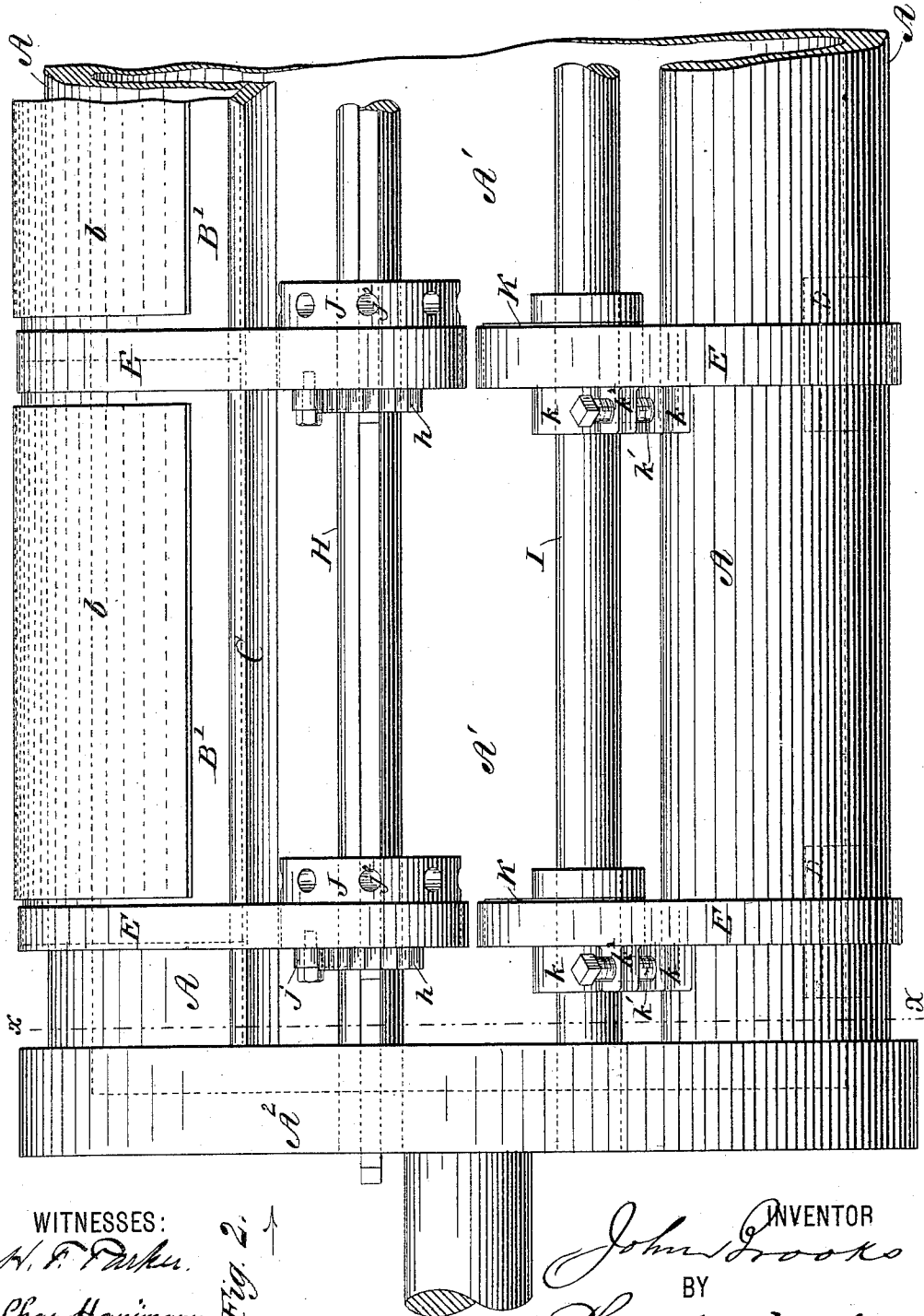
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H. P. Parker.
Chas. Hanemann

Fig. 2. ↑

INVENTOR
John Brooks
BY
Chas. W. Forbes
ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN BROOKS, OF PLAINFIELD, NEW JERSEY.

FASTENING FOR PRINTING-PLATES UPON CYLINDRIC SURFACES.

SPECIFICATION forming part of Letters Patent No. 433,232, dated July 29, 1890.

Application filed November 22, 1889. Serial No. 331,185. (No model.)

To all whom it may concern:

Be it known that I, JOHN BROOKS, a citizen of the United States, residing at Plainfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Fastenings for Printing-Plates upon Cylindric Surfaces, of which the following is a specification.

My invention relates to fastening printing-plates upon a form cylinder or turtle by means of tightening-bands; and it consists of certain novel features in the construction of the bands, and also new and improved devices for adjusting, tightening, and securing the bands, which I will proceed to describe with reference to the accompanying drawings, forming a part of this specification.

Figure 1 is a cross-section of a form-cylinder of a rotary printing-press, being taken on the line $x x$, Fig. 2, and Fig. 2 a side elevation of a portion of such form-cylinder. Fig. 3 illustrates the adjusting ratchet-spool for the bands in detail, the parts appearing separately in side elevation. Fig. 4 illustrates the tightening device for the bands in detail, the parts also appearing separately in side elevation. Fig. 5 is a detail view of one of the binding-blocks for the plates, and Fig. 6 a detail view of a portion of one of the bands to which the said block is applied, as would appear in elevation upon the opposite side of Fig. 2.

Similar letters of reference indicate corresponding parts throughout.

The cylinder A has an opening at A', in which the adjusting and tightening devices are placed.

B¹ B², &c., are the printing-plates bearing the impression-surfaces b thereon.

C is a permanent stop or gage, consisting of a continuous strip terminating the plate-receiving surface of the cylinder and against which the plates abut.

D D are adjustable blocks, against which the opposite end of the series of plates abut.

E are the tightening-bands, which have series of perforations e , into which the studs e' of the blocks D engage at approximate distances from the stop C. The shaft H is stationary, being secured in the heads A² of the cylinder. The ratchets h are fixed to the

shaft H. The spools J are loose upon the shaft H and bear pawls j , which engage with the ratchets h , so as to hold the spools J in any given position upon the shaft H. The spools J are provided with holes j^2 or other engaging surfaces for application of a suitable rotating tool, the one end of each tightening-band E being secured to the peripheries of the respective spools J. The opposite ends are similarly secured to the sectors K, the same turning with or upon the shaft I, having bearings in the ends A' of the cylinder. The spur-pieces k are independent of the sectors K, as seen in Fig. 4, and the said spur-pieces abut upon the edge of the opening of the cylinder A, being thus designed to afford bearing-surfaces for the tightening-screws k' , which engage in the threaded lugs k^2 of the sectors K. The bands E are composed of strong flexible material—such as steel—being of suitable width, according to their location at the single ends or at the abutting ends of the transverse series of plates, as seen in Fig. 2. The plate B' is first placed against the stop C, plates B² B³, &c., being successively adjusted while the bands E are loose. The binding-blocks D are then placed with their studs entering the band-perforations nearest the final plate edge, the series of plates then being drawn up into proper register by rotation of the ratchet-spools J. The bands are subsequently tightened by the sectors K by turning the set-screws k' . Should there be an insufficient number of plates to fill the circumference of the cylindric surface, the band may be permitted to lie taut in close proximity to the portion of the said cylindric surface not occupied, as indicated in the drawings.

The device is likewise applicable to a segmental cylindric surface or turtle as to the form-cylinder herein illustrated, the shafts H I being placed at the rectilinear edges of the segment in the same relation to its cylindric surface as they are located with relation to the surface of the cylinder A, and such application is to be considered as the equivalent hereof.

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

1. The combination, with a form-cylinder or equivalent, the printing-plates, and the tightening-bands resting on such plates, of tightening-sectors to which the said bands
5 are connected, and means, such as set-screws k' , whereby the sectors are rotated to draw the bands taut.

2. The combination, with a form-cylinder or equivalent the printing-plates, and the
10 tightening-bands resting on such plates, of adjusting-spools carrying the one end of the bands and tightening-sectors carrying the opposite ends thereof, and means, substantially as described, whereby the said spools and sectors
15 are rotated in opposite directions and secured to hold the bands taut.

3. The combination, with a form-cylinder or equivalent and printing-plates, of tightening-bands secured at one end to the cylinder having series of perforations, a gage-stop
20 longitudinal to the cylinder, binding-blocks having studs to fit said band-perforations, and ratchet-spools connected to the opposite ends of the band adapted to adjust the said
25 blocks toward the plates, in the manner specified.

4. The combination of the form-cylinder or equivalent, the printing-plates, the perforated tightening - bands and binding-blocks, the
30 ratchet-spools to which one end of the bands are connected, and the tightening-sectors pro-

vided with tightening-screws and to which the opposite ends of the said bands are connected.

5. The combination, with a form-cylinder 35 or equivalent the cylindric surface whereof has longitudinal terminating edges, of tightening-bands for the printing-plates, shafts located opposite and parallel to the margins of said edges, and spools and sectors thereon 40 to which the respective ends of the tightening-bands are connected.

6. The combination, with the form-cylinder and tightening - bands, of a longitudinal ratchet-bearing shaft located as described 45 fixed to the cylinder and adjusting-spools thereon connected to the bands, said spools bearing pawls which engage with the ratchets upon said shaft, for the purpose specified.

7. The combination, with the form-cylinder 50 and tightening-bands, of a longitudinal shaft located as described bearing tightening-sectors, tightening-screws upon the sectors, and spur-pieces upon the shaft opposite the said screws interposed between the same and the edge of the form-cylinder, in the manner and for the purpose described.

JOHN BROOKS.

Witnesses:

CHAS. W. FORBES,
H. F. PARKER.