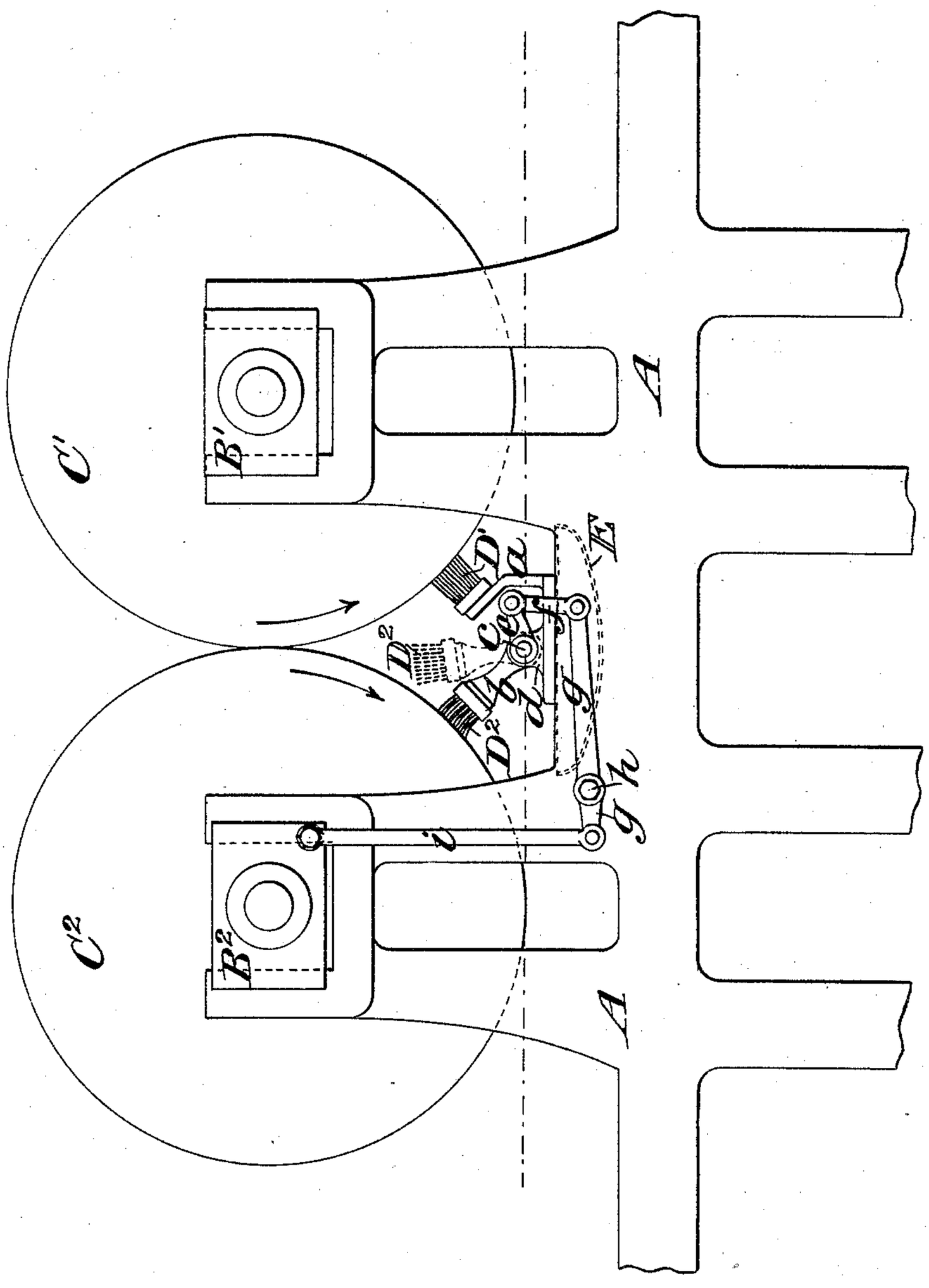
(No Model.)

C. B. COTTRELL.

CYLINDER PRINTING MACHINE.

No. 474,056. Patented May 3, 1892.



Witnesses:
C. L. Sundgren
George Barry.

Inventor:
Calvert B. Cottrell
by attorneys
Brown & Seward

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CALVERT B. COTTRELL, OF WESTERLY, RHODE ISLAND.

CYLINDER PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 474,056, dated May 3, 1892.

Application filed January 22, 1892. Serial No. 418,874. (No model.)

To all whom it may concern:

Be it known that I, CALVERT B. COTTRELL, of Westerly, in the county of Washington and State of Rhode Island, have invented a new and useful Improvement in Cylinder Printing-Machines, of which the following is a specification.

This invention relates to brushes employed in cylinder printing-machines to smooth out over the surface of the impression-cylinder sheets to be printed, and relates especially to such brushes used in connection with the second impression-cylinders of perfecting machines, the object being to prevent the brush from wiping the tympan on the last-mentioned cylinder during the alternate revolutions of said cylinder when there is no sheet thereon.

The accompanying drawing represents a side view of the two impression-cylinders of a perfecting printing-machine and such other parts of the machine as are necessary to illustrate my invention.

A is the main framing of the machine, to which are fitted in the usual manner the journal-boxes B′ B^2, in which the journals of the first and second impression-cylinders C′ C^2 are capable of a rising-and-falling motion in the usual manner. As this rising-and-falling motion is or may be produced by the mechanism commonly employed for the purpose, such mechanism is not herein shown.

D′ is a brush for smoothing the sheets on the first impression-cylinder. As it is not necessary that this brush should ever be withdrawn from the cylinder during the operation of the machine, it is represented as fixedly supported on stationary standards *a*, erected on the framing A, there being one such standard on each side of the machine for each end of the said brush.

D^2 is the brush which is applied to the second impression-cylinder C^2, and which constitutes a part of my invention. This brush is automatically movable toward and from the cylinder. For the purpose of providing for this automatic movement, the said brush is represented as attached to the arms *b* of a horizontal rock-shaft *c*, which is supported in bearings in small stationary boxes *d*, one on each side of the main framing A. On one end of this rock-shaft, which projects outside of the main framing A, there is fastened an arm *e*, which is connected by a rod or link *f* with the longer arm of a lever *g*, which works on a stationary fulcrum *h*, secured in the said framing A. The shorter arm of this lever *g* is connected by a rod *i* with the journal-box B^2 of the second impression-cylinder C^2 in such manner that when the cylinder-box is lifted the said rod, acting through the lever *g*, link or rod *f*, arm *e*, rock-shaft *c*, and arm *b*, will carry away the brush from the cylinder, as shown in dotted outline in Fig. 1, and that when the cylinder is brought down to the level for printing, in which position it is in the drawing, its journal-box, acting through said rod and the connections, depress the shorter arm of the lever *g*, and by raising the other arm will cause the rock-shaft to be turned to a position to bring the brush D^2 against a sheet which is on the said cylinder C^2.

The operation of the invention is as follows: A sheet passing down to be printed on the second impression-cylinder C^2 while the said cylinder is depressed is brushed smooth by the brush D^2; but after the rear end of the impression-surface of the said cylinder reaches the type on the form the cylinder begins to rise and its journal-box B^2, then rising, pulls up the rod *i*, which, acting on the lever *g* and through its connections on the rock-shaft *c*, pulls the brush D^2 to the position shown in dotted outline before the front end of the impression-surface of the said cylinder reaches the point nearest the said brush. In this position, in which it will not wipe the tympan, the brush remains so long as the cylinder C^2 is lifted; but when the cylinder is depressed again for the next printing operation it brings the brush back to the position shown in bold outline in the drawing for smoothing the sheet received by the second impression-cylinder C^2 from the first impression-cylinder C′.

I have shown in dotted lines in the drawing a dust-pan for catching any dust that may be brushed from the sheets by the brushes D′ D^2.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the impression-cylinder of a printing-machine capable of a

lifting motion and depression, of a brush movable toward and from said cylinder, and connections between the said brush and cylinder for producing the movement of the brush from and toward the cylinder by the lifting and depression of the same, substantially as and for the purpose herein set forth.

2. The combination, with the impression-cylinder of a printing-machine and movable journal-boxes for lifting the said cylinder, of a brush for smoothing sheets on said cylinder, and mechanism intermediate to said brush and one of said boxes for moving the said brush toward and from the cylinder by the movements of said box, substantially as herein set forth.

3. The combination, with the impression-cylinder of a printing-machine and journal-boxes for lifting said cylinder, of a brush for smoothing sheets on said cylinder, a rock-shaft and arms thereon for carrying said brush, a lever and connections between said lever and one of said boxes, and said rock-shaft for moving said brush from and toward the said cylinder by the lifting and depression of the said boxes, substantially as herein set forth.

CALVERT B. COTTRELL.

Witnesses:
A. R. STILLMAN,
B. FRANK LAKE.