

(No Model.)

C. C. SMALL.

INKING APPARATUS FOR PRINTING PRESSES.

No. 464,044.

Patented Dec. 1, 1891.

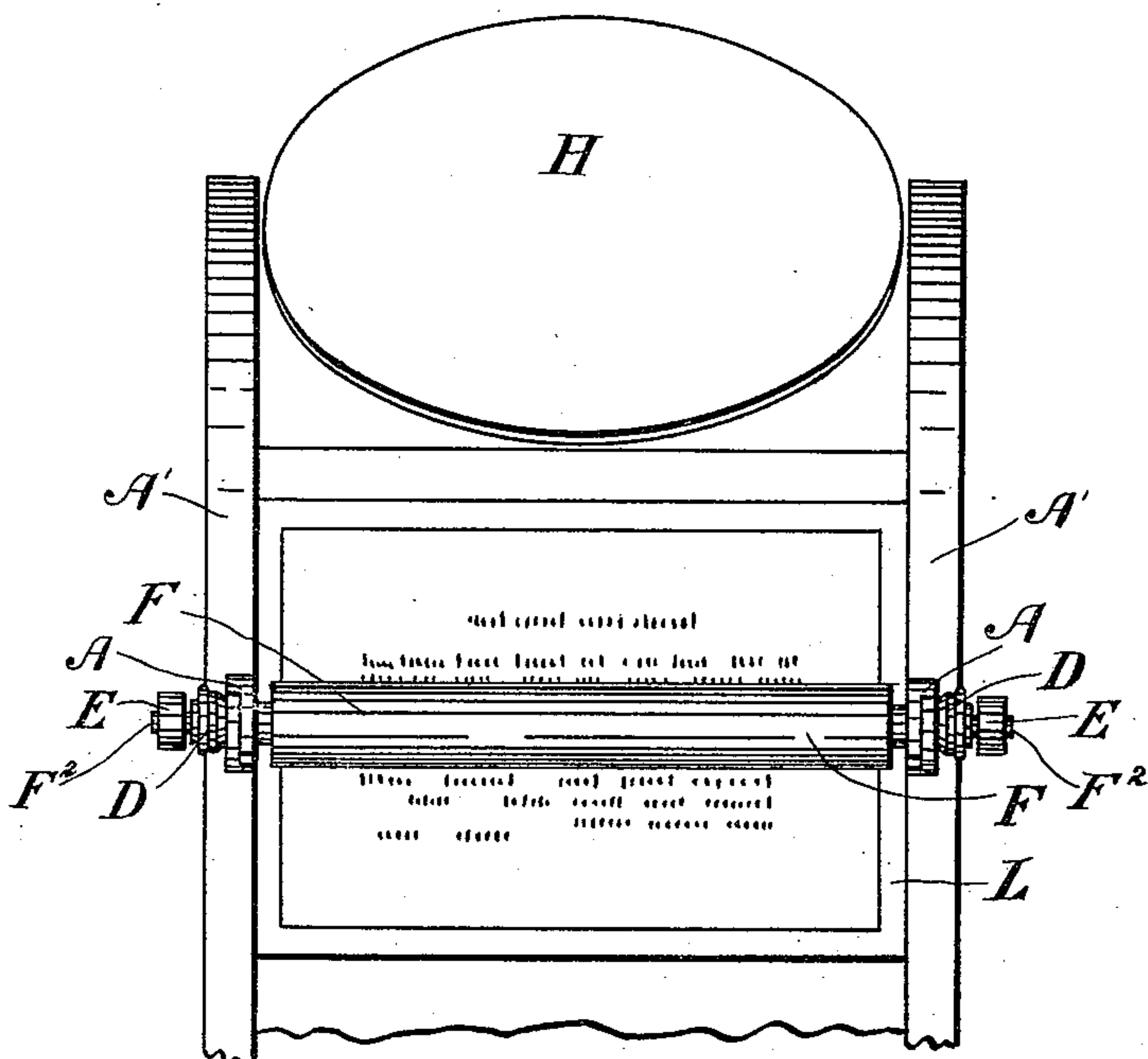


Fig. 1.

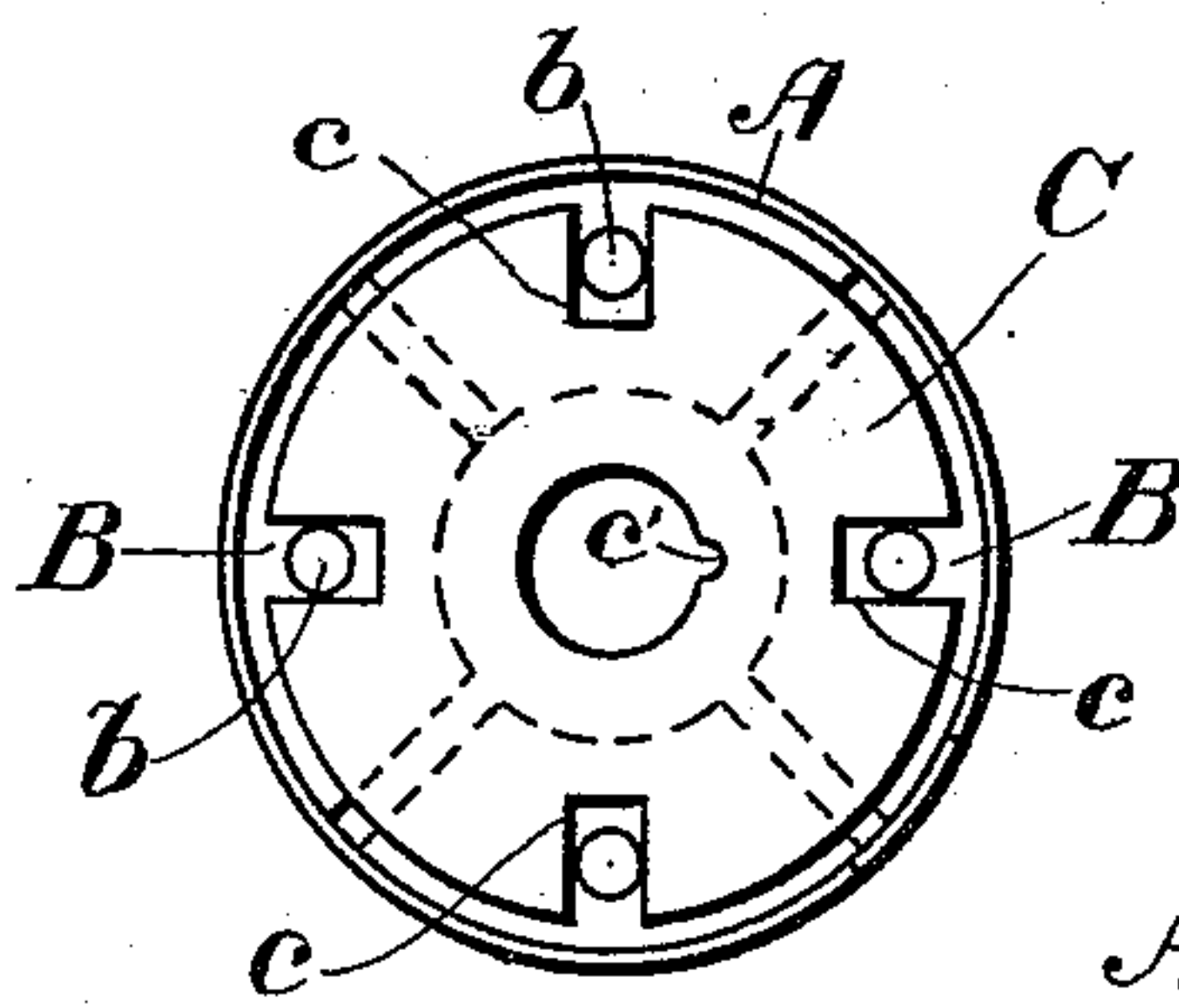


Fig. 2.

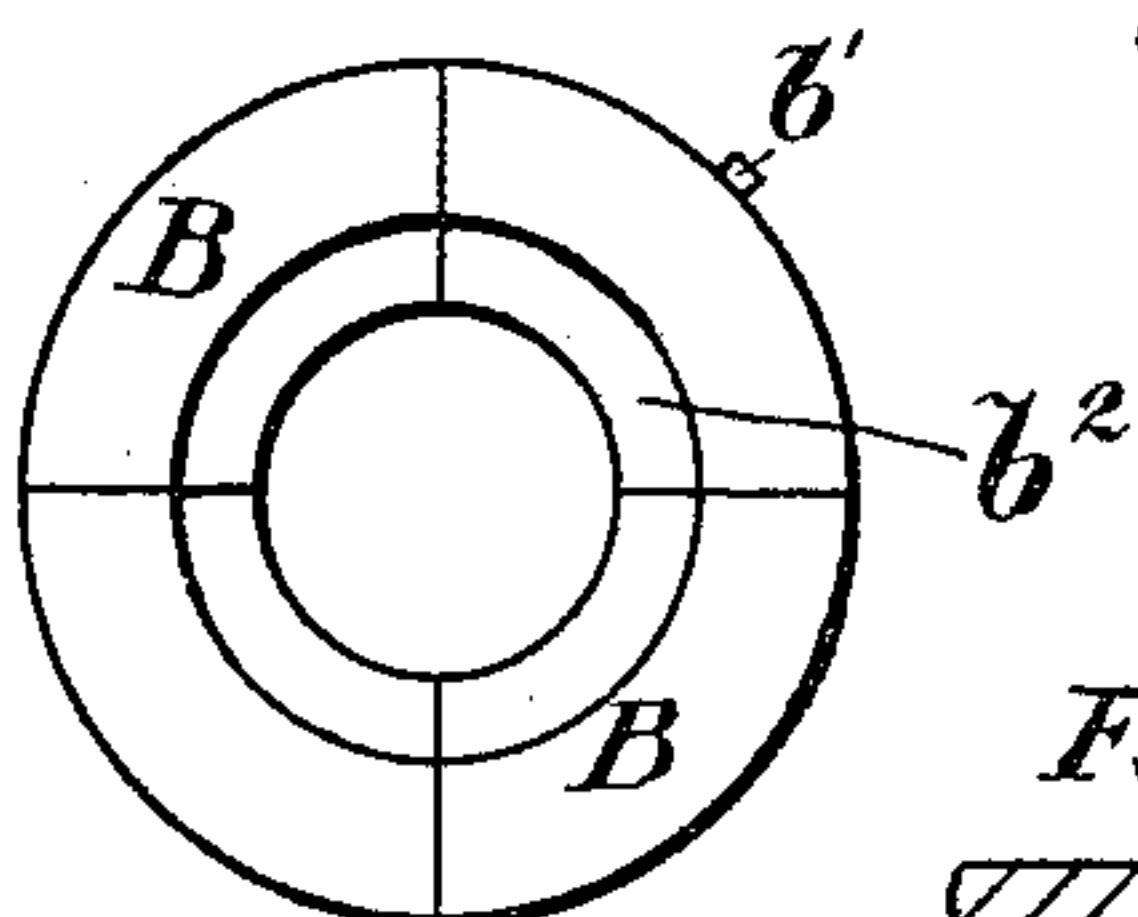


Fig. 4.

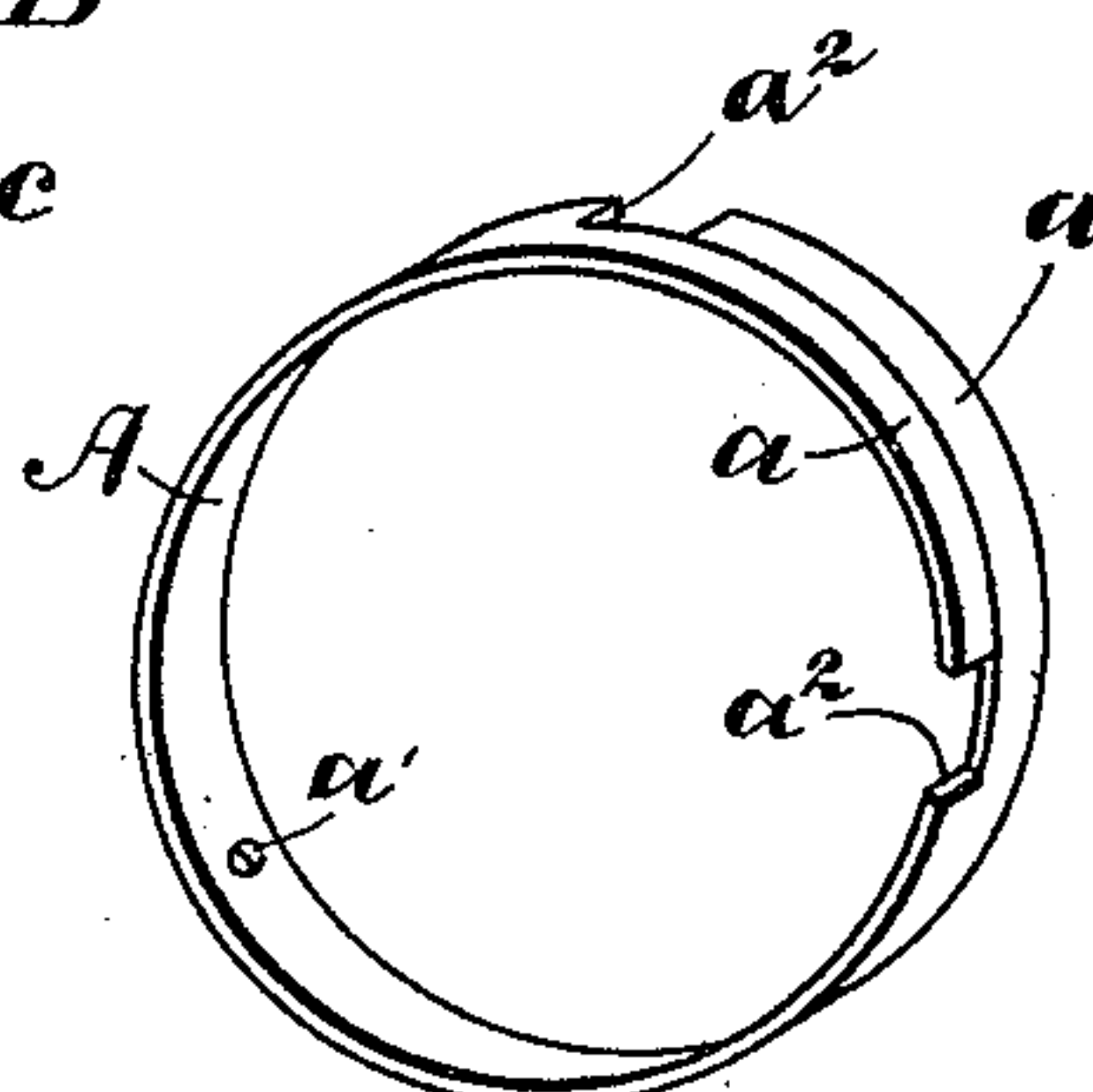


Fig. 5.

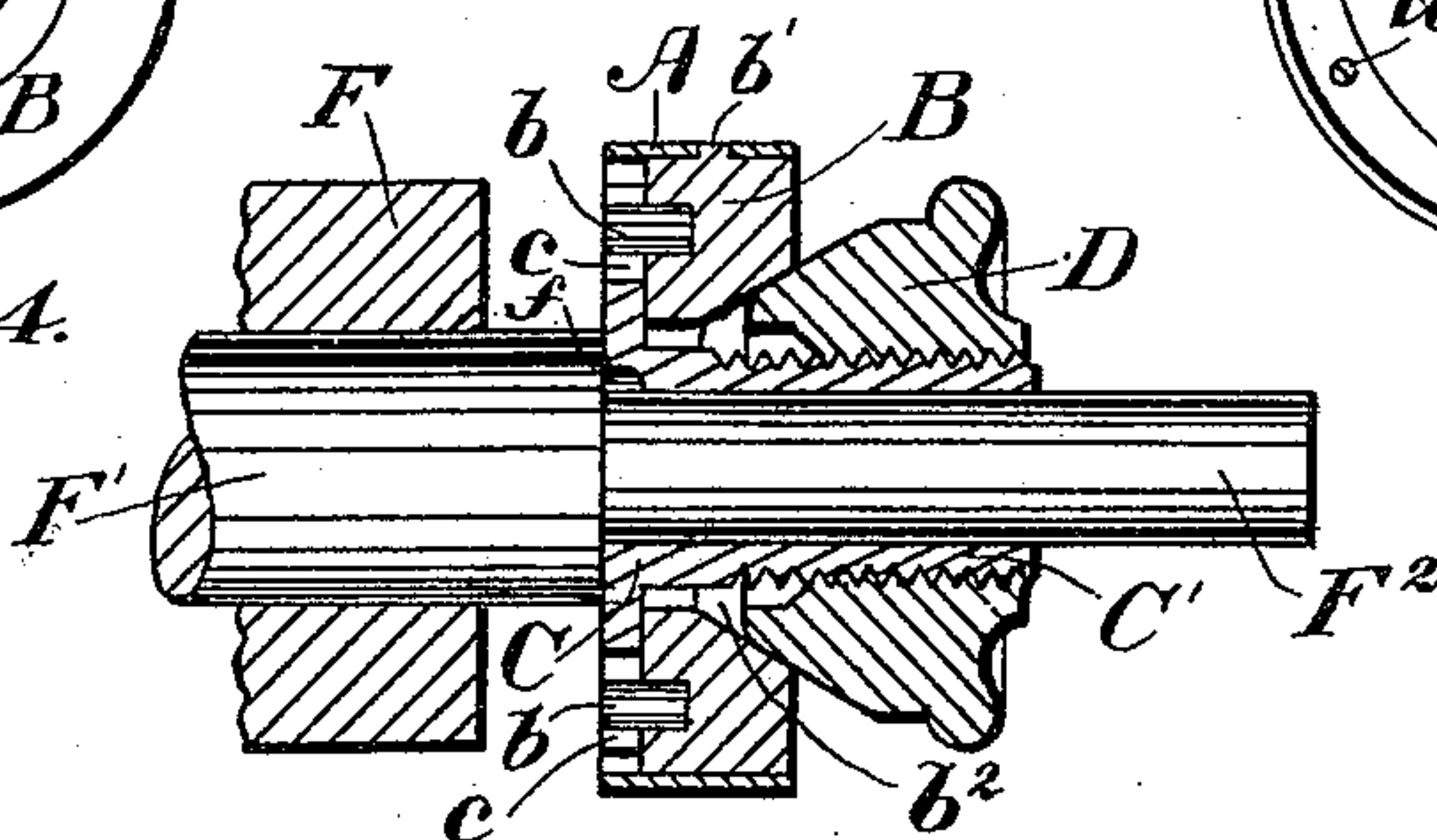


Fig. 3.

Witnesses  
Albert E. Leach  
E. H. Gilman.

Inventor  
Chas. C. Small  
by Wm. B. H. Dowers  
Att'y =



# UNITED STATES PATENT OFFICE.

CHARLES C. SMALL, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF  
TO LOUIS K. BROWN, OF SAME PLACE.

## INKING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 464,044, dated December 1, 1891.

Application filed March 23, 1891. Serial No. 385,957. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. SMALL, a citizen of the United States, residing at Boston, (Chelsea,) in the county of Suffolk and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Inking Apparatus for Printing-Presses, of which the following is a full specification.

My invention relates to inking apparatus; and it consists in the application to printing-press inking or form rollers of expansible trucks which are placed on the ends of said rollers and adapted to run over tracks at the ends of the bed of the press in moving the roller over the inking devices and over the form. It is often necessary to vary the pressure of the inking-roller upon the form as it passes back and forth over the same. Being made of gelatinous composition, the roller when new is larger in size than after it has been in use for some time, when it contracts. This being the case, if the truck at each end of the roller which passes over the track is of such a size to give the right degree of pressure of the roller on the form after the said roller has been some time in use it will press too hard when the roller is new, and vice versa. To obviate this it is commonly necessary to employ two sets of collars or trucks, one adapted for use when the roller is new and the other when the roller has been in use for some time. This practice does not, however, allow perfect adjustment.

The truck, which forms the main feature of my invention, is expansible and may readily be made larger and smaller in diameter by simply turning in or out a regulating thumb-nut, so that any degree of pressure of the roller on the form may be obtained.

Referring to the accompanying drawings, Figure 1 represents in front elevation the bed of a printing-press, showing the inking or form roller, which is supplied with my improved trucks, in the act of passing over the form. Fig. 2 is a face view of my improved truck. Fig. 3 is a sectional view showing the truck on the arbor of the inking-roller. Fig. 4 shows the expanding blocks, and Fig. 5 shows in perspective the peripheral strap.

F is the inking or form roller, made of gelatinous composition and mounted on the metal

arbor  $F'$ , with which it turns. The ends  $F^2$  of this arbor are held in the usual manner in suitable boxes E at each side of the bed of the press.

$A' A'$  are the tracks (see Fig. 1) over which run the trucks, which are mounted on the arbor  $F^2$  to turn therewith.

H is the inking-table at the top of the press. The motion of the bearing-boxes E E is such as to carry the inking or form roller F up and down over the form and over the inking-table H, the trucks moving over the tracks  $A' A'$ .

C C' is a flanged sleeve or collar which fits the end  $F^2$  of the arbor  $F'$ , and is arranged to turn therewith. In this instance the arbor is provided with the projection  $f$ , which fits the recess  $c'$  in the flanged sleeve. (See Fig. 2.) The flange C is provided with radial grooves  $c$ , which receive pins or projections  $b$  on the expanding blocks B. These expanding blocks preferably fit together, as shown in Fig. 4, to form virtually a ring, centrally bored out to fit over the sleeve portion C', and each expanding block B is provided with the inclined surface  $b^2$ .

A is an outer resilient circular strap which forms the periphery of the truck, being made, preferably, of spring-steel. This strap is so made as to have its two ends  $a a$  overlap each other, being provided with shoulders  $a^2$ , the construction being such that when the strap is free it normally closes together to form a complete unbroken circle, and may be expanded to form, virtually, circles of various diameters, as shown in Fig. 5. The sleeve portion C' of the piece C C' is screw-threaded, and on it is adapted to turn the interiorly-threaded thumb-nut D, which is conical in shape, as clearly shown in Fig. 3. The expanding blocks B being put together, as shown in Fig. 4, with the projecting pin  $b$  on each block in a groove  $c$  on the flange C of the collar, the strap A is passed around the periphery of the blocks, which serves to bind them together. One of the blocks B is preferably provided with a lug  $b'$ , which engages with a hole  $a'$  in the strap. The thumb-nut D is then screwed in on the sleeve C', the conical portion of the thumb-nut fitting accurately the inclined surface  $b^2$  of the expanding blocks. The whole truck thus formed is



then slipped into place on the end of the ink-roll arbor, as shown in Fig. 3, and the inking-roll, with its fittings, put in place on the press, as in Fig. 1. By screwing in or out the conical thumb-nut D the expanding-blocks B move outward or inward, which expands or contracts the peripheral band A, forming a truck of larger or smaller diameter. In this manner the size of the truck may be changed at will without removing the roller or any part from the press, thus regulating perfectly the pressure of the inking-roller on the form in a simple and easy manner.

While I show and describe the conical nut D as being a thumb-nut, the said nut may be arranged to operate by a wrench instead of by hand, if desired.

I claim—

1. The combination, with a printing-press roller and guiding-track, of an expansion truck engaging with said track, consisting of a flanged screw-threaded sleeve fixed on the end of the roller-arbor, expanding blocks guided to move inwardly and outwardly against the flange of the sleeve, said blocks being provided with inclined surfaces, a pe-

ripheral resilient circular strap embracing said blocks, and a conical nut mounted on said sleeve and engaging with said expanding blocks, whereby the pressure of the roller on the form may be varied, substantially as described.

2. The combination, with a printing-press roller and guiding-track, of an expansion-truck engaging with said track, consisting of a screw-threaded sleeve fixed on the end of the roller-arbor, said sleeve being provided with a flange having radial grooves, expanding blocks having pins or projections engaging with said grooves and guided therein, a flexible resilient circular strap having overlapping ends  $a$  and shoulders  $a^2$ , and a conical thumb-nut mounted on said threaded sleeve and engaging with said expanding blocks, substantially as described.

In witness whereof I have hereunto set my hand.

CHARLES C. SMALL.

Witnesses:

WM. B. H. DOWSE,  
ALBERT E. LEACH.