

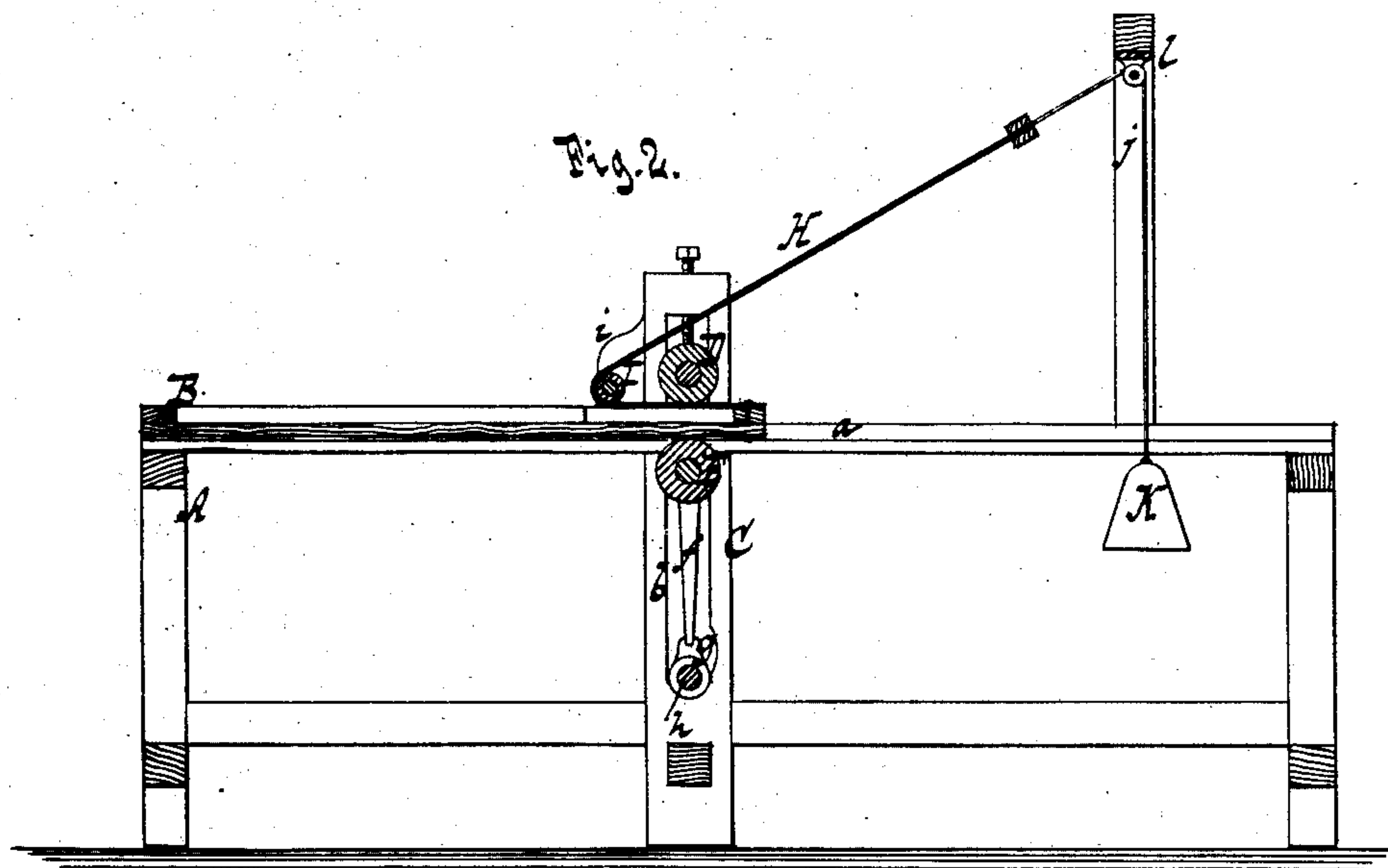
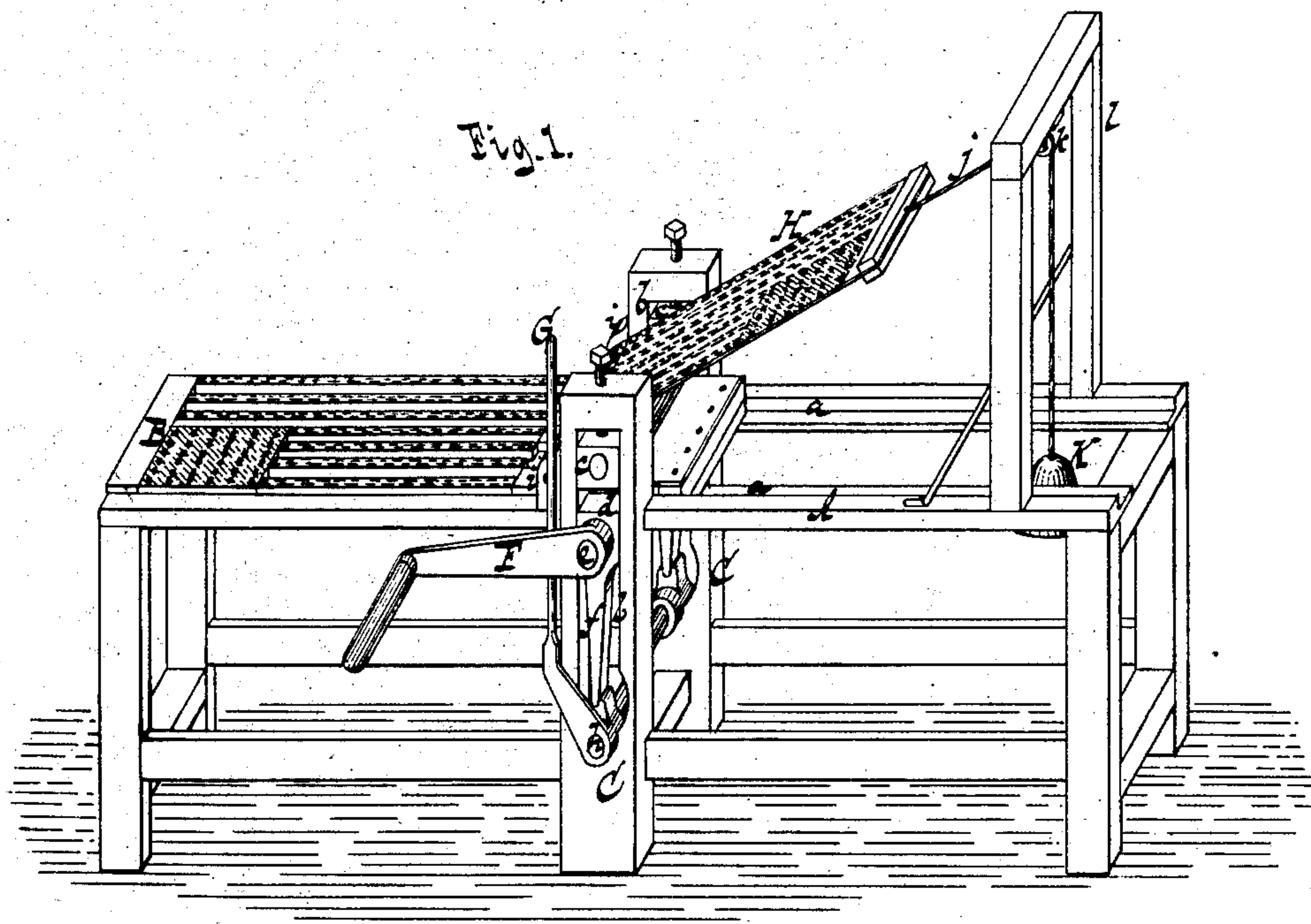
(No Model.)

J. E. GRUMBACH.

PRINTING PRESS.

No. 245,161.

Patented Aug. 2, 1881.



Witnesses

Otto Sufeland

William Miller

Inventor

John E. Grumbach

by Van Lentwood & Hauff  
his attorneys



# UNITED STATES PATENT OFFICE.

JOHN E. GRUMBACH, OF JERSEY CITY, NEW JERSEY.

## PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 245,161, dated August 2, 1881.

Application filed March 24, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. GRUMBACH, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Printing-Presses, of which the following is a specification.

This invention relates to an improvement in that class of printing-presses in which a carriage is used which contains the form or block, to which is secured a weighted apron that passes over the presser-roller—such, for instance, as shown in the press described in Letters Patent No. 7,786, dated November 19, 1850.

In presses of this class I have found that in using them for printing on muslin or similar limber material such material, on entering beneath the presser-roller, is liable to pucker, and the operation of printing is not a success.

My invention consists in the combination, with the carriage containing the form or block to be printed from, and with the weighted apron and presser-roller, of an additional guide-roller for the apron, said guide-roller being situated in advance of the presser-roller and close above the carriage, so that by its action the material to be printed is laid down smooth upon the form or block, and the operation of printing can be carried on without difficulty.

This invention is illustrated in the accompanying drawings, in which Figure 1 represents a perspective view of my press. Fig. 2 is a longitudinal vertical section.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the frame, which is provided with guideways *a a* for the carriage B. To this frame are firmly secured two standards, C C, which are provided with guide-slots *b b* for the journal-boxes *c* of the presser-roller D, and also for the journal boxes *d* of a roller, E, the shaft *e* of which extends beyond the frame and carries a hand-crank, F.

From the journal-boxes *d* extend arms *f* into slots formed on the ends of knuckles *g*, which extend from a shaft, *h*, that has its bearings in the bottom ends of the guide-slots *b* in the standards C. On one end of this shaft is

mounted a hand-lever, G, so that by its means said shaft can be turned and the journal-boxes *d*, together with the roller E, can be raised or lowered.

To the inner end of the carriage C is firmly secured an apron, H, which extends beneath the presser-roller D and round an additional roller, I, the shaft of which is mounted in lugs *i*, forming part of the frame A, and which is placed above the carriage B, so that the same, together with its form or block and with the material to be printed, can be passed beneath said roller without producing any perceptible pressure upon the material to be printed.

From the upper or outer end of the apron H extends a rope, *j*, over a roller, *k*, secured to a yoke, *l*, which rises from the frame A, and a weight, K, which is suspended from the rope *j*, serves to keep the apron taut.

After the material to be printed has been placed smoothly upon the form or block in the carriage B the roller E is raised by the hand-lever G, so as to compress the carriage firmly between it and the presser-roller D, and then by turning the hand-crank F the carriage is caused to move inward between the two rollers E and D. During this motion the apron H is drawn in so as to lie upon the material to be printed, and by the action of the additional roller I the material to be printed is kept smoothly down upon the form or block, so that its surface is printed uniformly as the same passes beneath the presser-roller D.

My press is intended particularly for the purpose of printing flags or other articles of a similar nature, which are made of muslin or other equivalent limp material, and I have found that the success of the operation depends entirely upon the additional roller I, which prevents the material from puckering.

I do not claim as my invention the combination of the weighted apron with the carriage and the presser-roller, such being old and well known.

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

In a printing-machine, the combination, with the apron attached at one end to the horizontal reciprocating carriage and weighted at its

other end, and the presser-roller D, for pressing the apron down, of the smoothing-roller I, extending across the apron in front of the presser-roller, and around which the apron is  
5 drawn when the carriage is moved for smoothing the apron in advance of the presser-roller, all substantially as shown and described.

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

JOHN E. GRUMBACH. [L. s.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.