

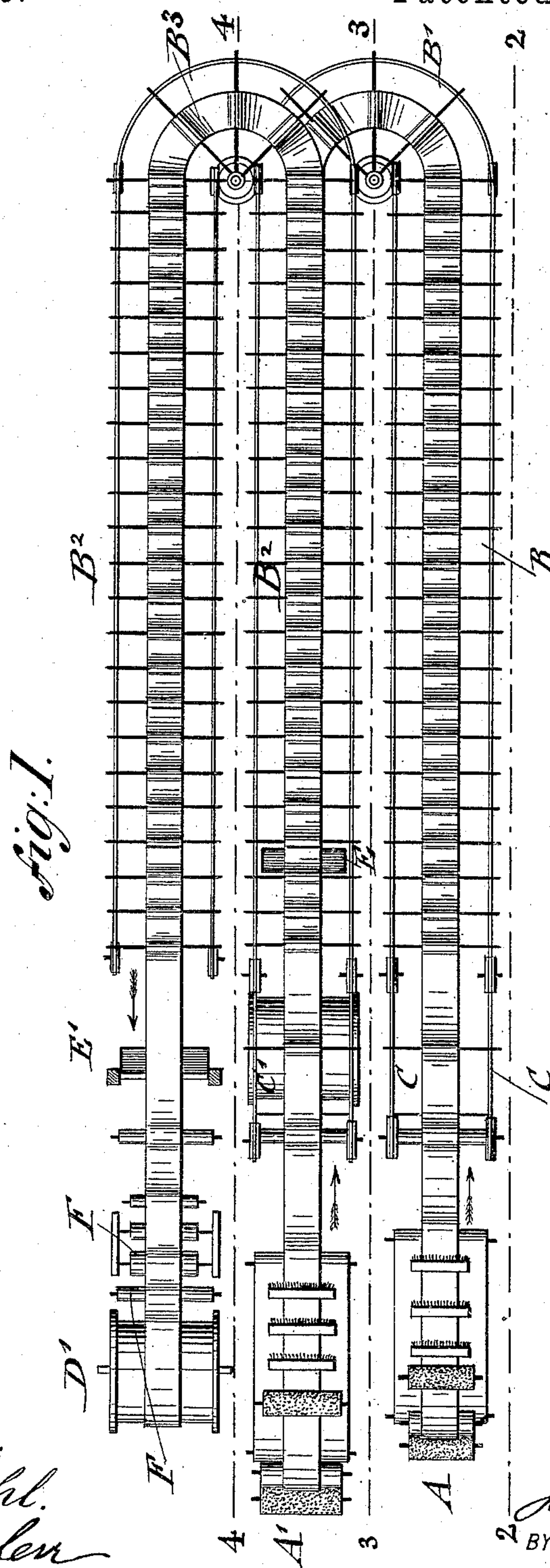
(No Model.)

4 Sheets—Sheet 1.

J. KAYSER.  
APPARATUS FOR COATING PAPER.

No. 445,955.

Patented Feb. 3, 1891.



WITNESSES:  
*A. Schehl.*  
*W. Rimmer*

INVENTOR:  
*Joseph Kayser*  
BY *George R. Rimmer*  
ATTORNEYS

(No Model.)

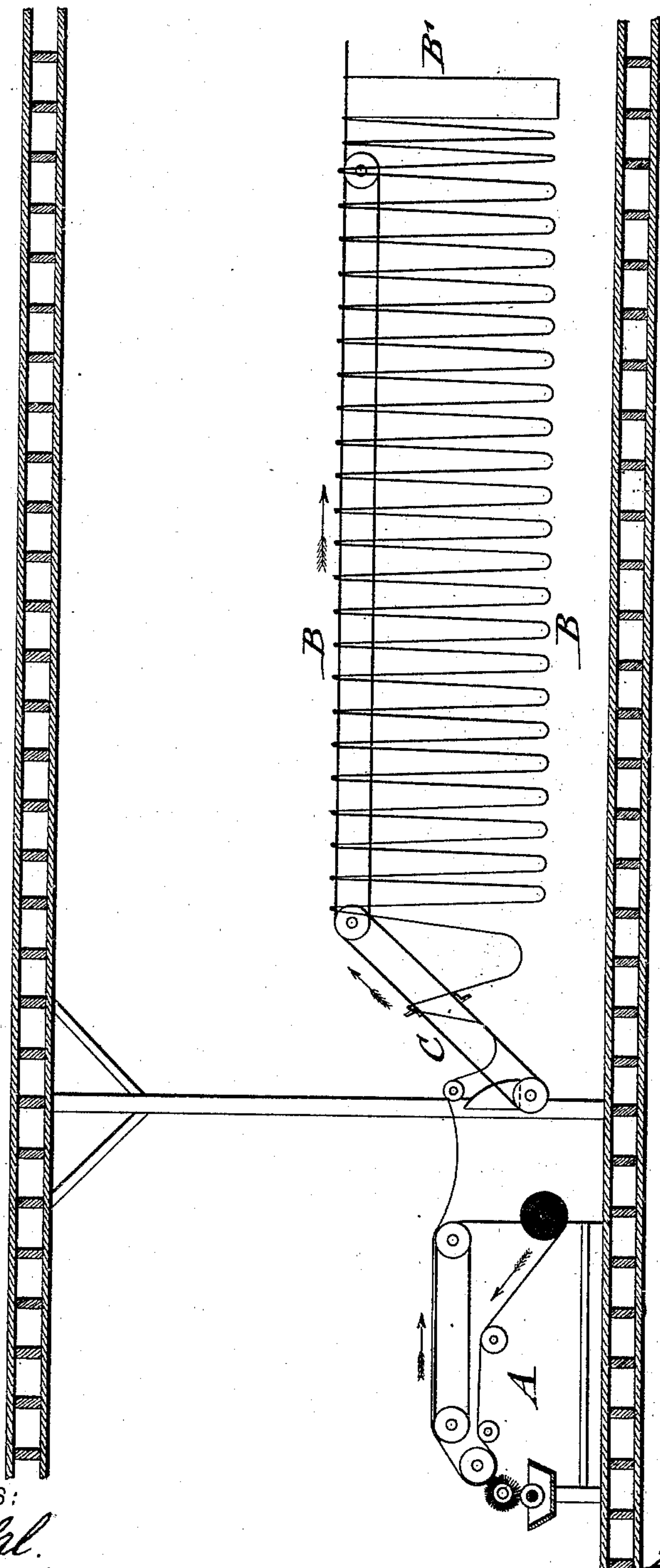
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*Fig. 2.*



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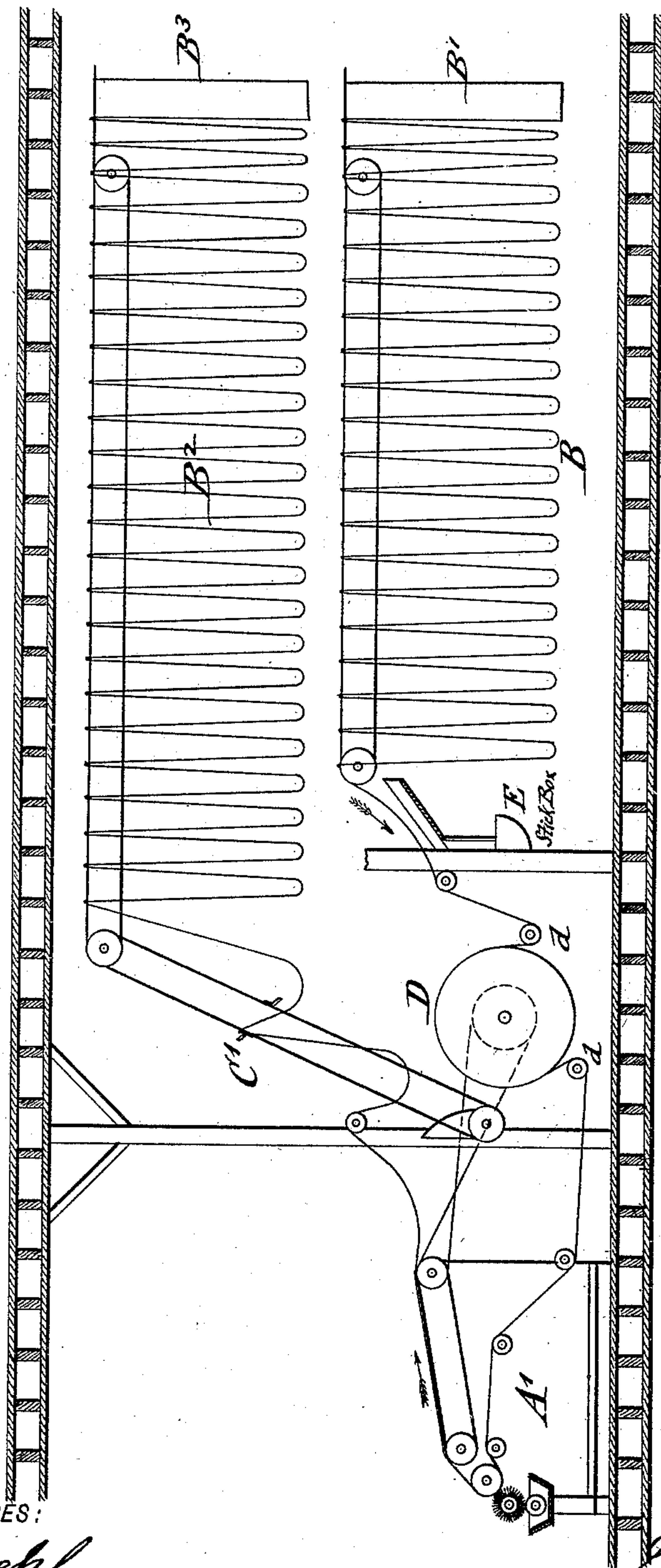
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*Fig. 3.*



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(No Model.)

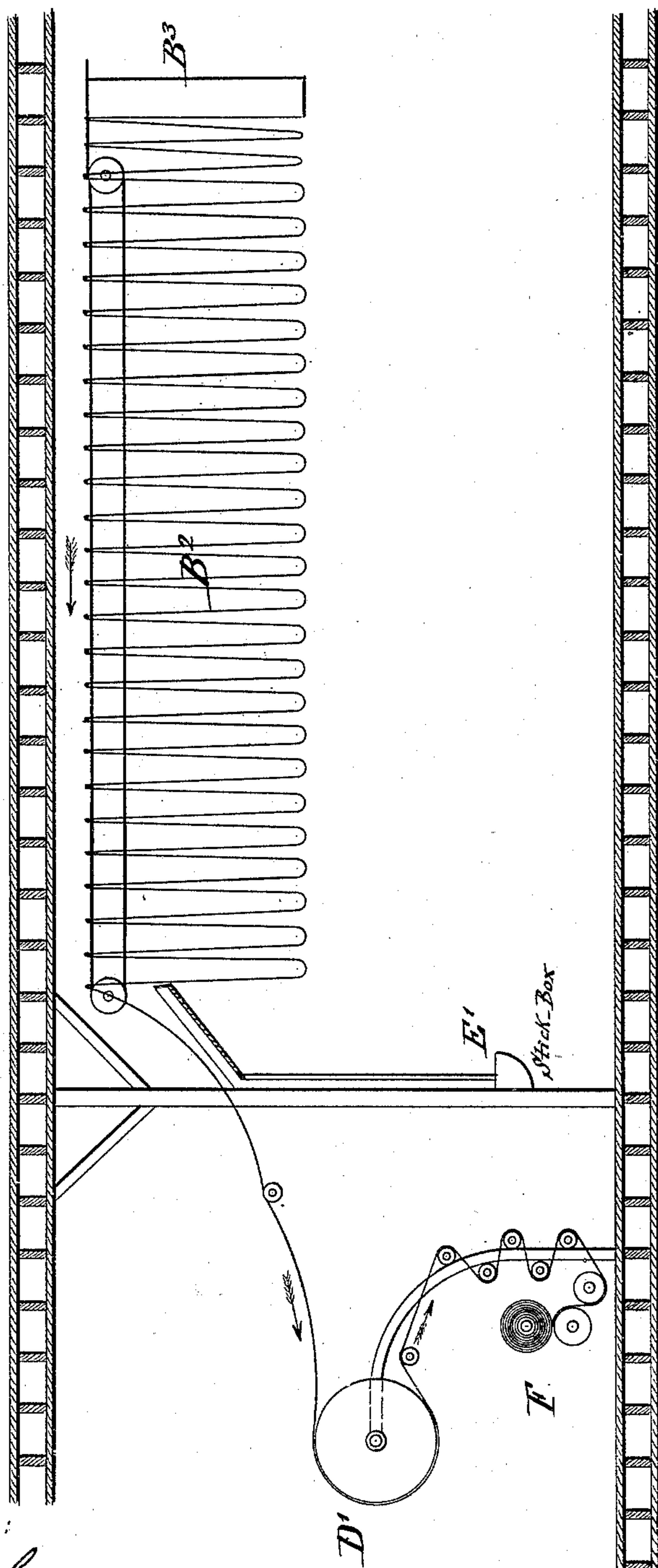
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*Fig. 4.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSEPH KAYSER, OF NEW YORK, N. Y., ASSIGNOR TO JOHANNA KAYSER,  
OF SAME PLACE.

## APPARATUS FOR COATING PAPER.

SPECIFICATION forming part of Letters Patent No. 445,955, dated February 3, 1891.

Application filed April 10, 1890. Serial No. 347,349. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH KAYSER, of New York, county of New York, and State of New York, a citizen of the United States,  
5 have invented certain new and useful Improvements in Apparatus for Coating Paper, of which the following is a specification.

This invention relates to an improved apparatus for coating paper on both sides by  
10 one continuous operation, said paper being used in the printing of fine books and lithographic work in which a paper with a smooth tinted surface is required.

The invention consists of an apparatus for  
15 coating paper on both sides by one continuous process, which apparatus comprises a primary grounding-machine, a primary drying apparatus, means for transferring the paper from the grounding-machine to said drying apparatus, a second grounding-machine  
20 sidewise of the primary grounding-machine, a second drying apparatus arranged above the primary drying apparatus, means for transferring the paper from the second grounding-machine to the second drying apparatus, a reeling-machine  
25 sidewise of the secondary grounding-machine, and means for grounding the paper from the second drying apparatus to the reeling-machine.

30 In the accompanying drawings, Figure 1 represents a plan view of my improved apparatus for coating paper, said apparatus being designed for carrying out my improved process of coating paper on both sides by one  
35 continuous operation; and Figs. 2, 3, and 4 are sectional elevations of the apparatus, taken, respectively, on lines 2 2, 3 3, and 4 4, Fig. 1.

Similar letters of reference indicate corresponding parts.

40 Referring to the drawings, A represents a grounding-machine of any approved construction. The paper to be coated is passed through the grounding-machine and coated on one side by the same, it being then hung  
45 up on sticks and conveyed by the usual transferring mechanism C to a primary drying apparatus B, on which the sticks and the paper hung upon the same are moved slowly forward so as to be subjected to a drying action by  
50 the heat of the room in which the drying apparatus is located.

The drying apparatus B, instead of taking up the entire height of the room in which the same is located, is so arranged as to take up only one-half the height of the same.

The length of the drying apparatus B is  
55 determined by the length of the factory-building, which length is doubled by arranging a turn-table B' at the end of the drying apparatus B, by which the paper is moved through  
60 an angle of one hundred and twenty degrees, so that it is returned at the same level but in opposite direction to its former motion.

The drying apparatus B with its turn-table B' is well known and forms no part of this  
65 invention.

When the paper arrives at the end of the return-section of the drying apparatus B, it is passed by means of guide-rollers *d d* over  
70 a steam-heated drum D, while the sticks are deposited in the well-known manner in a stick-box E before the paper passes over the steam-heated drum D. From the steam-heated drum D the paper is then guided on  
75 to a second grounding-machine A', which is located sidewise of the first grounding-machine. By the turn-table B' the paper is placed in such a position that the opposite or uncoated side of the same is presented to the color-brush of the grounding-machine A'.  
80 This machine coats the paper on the opposite side, it being then conducted by the sticks of a second transferring device C' to a second drying apparatus B<sup>2</sup>, that is arranged vertically  
85 above the return-section of the primary drying apparatus B in the upper half of the room in which the coating apparatus is located. When the paper arrives at the end of the drying apparatus B<sup>2</sup>, it is moved by a turn-table B<sup>3</sup> to the return-section of the same, which is arranged  
90 at the same level with the first section of the drying apparatus B<sup>2</sup>. The paper passes then over a second steam-heated drum D' to a reeling-machine, while the sticks on which the paper is hung are deposited again in a  
95 second stick-box E' in the usual manner.

The reeling-machine F is located sidewise of the second grounding-machine A', as shown clearly in Fig. 1. The steam-heated drum D' produces the final drying of the paper and  
100 prevents it from sticking when wound up in a roll on the reel F.



By arranging the apparatus in the manner described—namely, placing the second grounding-machine sidewise of the primary grounding-machine and the reeling-machine sidewise of the second grounding-machine, arranging a turn-table in each drying apparatus and locating the second drying apparatus in the upper half of the space and above the primary drying apparatus—the entire coating apparatus is brought within a reasonable length and height and can be advantageously erected without difficulty in factory-buildings of the ordinary size.

The advantages of my method and apparatus are that the paper is passed successively through two grounding-machines and through two drying operations, so as to be coated on both sides, while it is passed through one reeling operation only, the different operations being carried on continuously and without any handling of the paper until the same is coated on both sides. The paper can thus be coated at a considerable saving in time and labor, as a larger quantity can be finished in a given time than by the method heretofore employed.

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

1. The apparatus herein described for coating paper on both sides by one continuous process, which consists of a primary grounding-machine, a primary drying apparatus, means for transferring the paper from the grounding-machine to said drying apparatus, a second grounding-machine sidewise of the primary grounding-machine, a second drying apparatus arranged above the primary dry-

ing apparatus, means for transferring the paper from the second grounding-machine to the second drying apparatus, a reeling-machine sidewise of the secondary grounding-machine, and means for guiding the paper from the second drying apparatus to the reeling-machine, substantially as set forth.

2. The apparatus herein described for coating paper on both sides, which consists of a primary grounding-machine, a primary drying apparatus, means for transferring the paper from the primary grounding-machine to the primary drying apparatus, said drying apparatus occupying the lower half of the height of the room and being arranged with a turn-table for turning the paper, a second grounding-machine located sidewise of the first grounding-machine, a second drying apparatus arranged in the upper half of the height of the room and partly above the primary drying apparatus, means for transferring the paper from the second grounding-machine to the second drying apparatus, said second drying apparatus being also provided with a turn-table for turning the paper, a reeling-machine arranged sidewise of the second grounding-machine, and means for transferring the coated paper from the second drying apparatus to the reeling-machine, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOSEPH KAYSER.

Witnesses:

PAUL GOEPEL,  
MARTIN PETRY.