

No. 670,401.

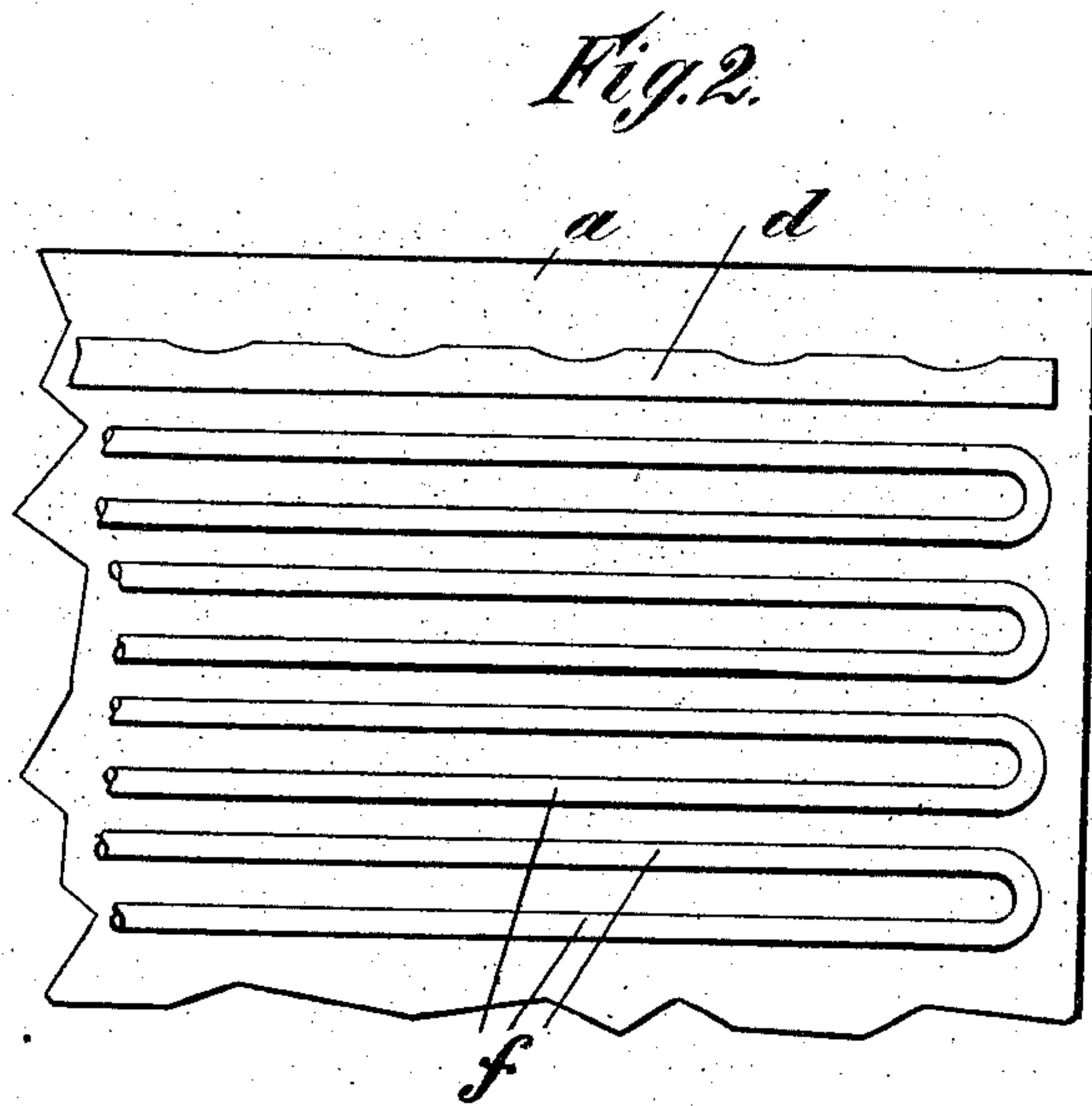
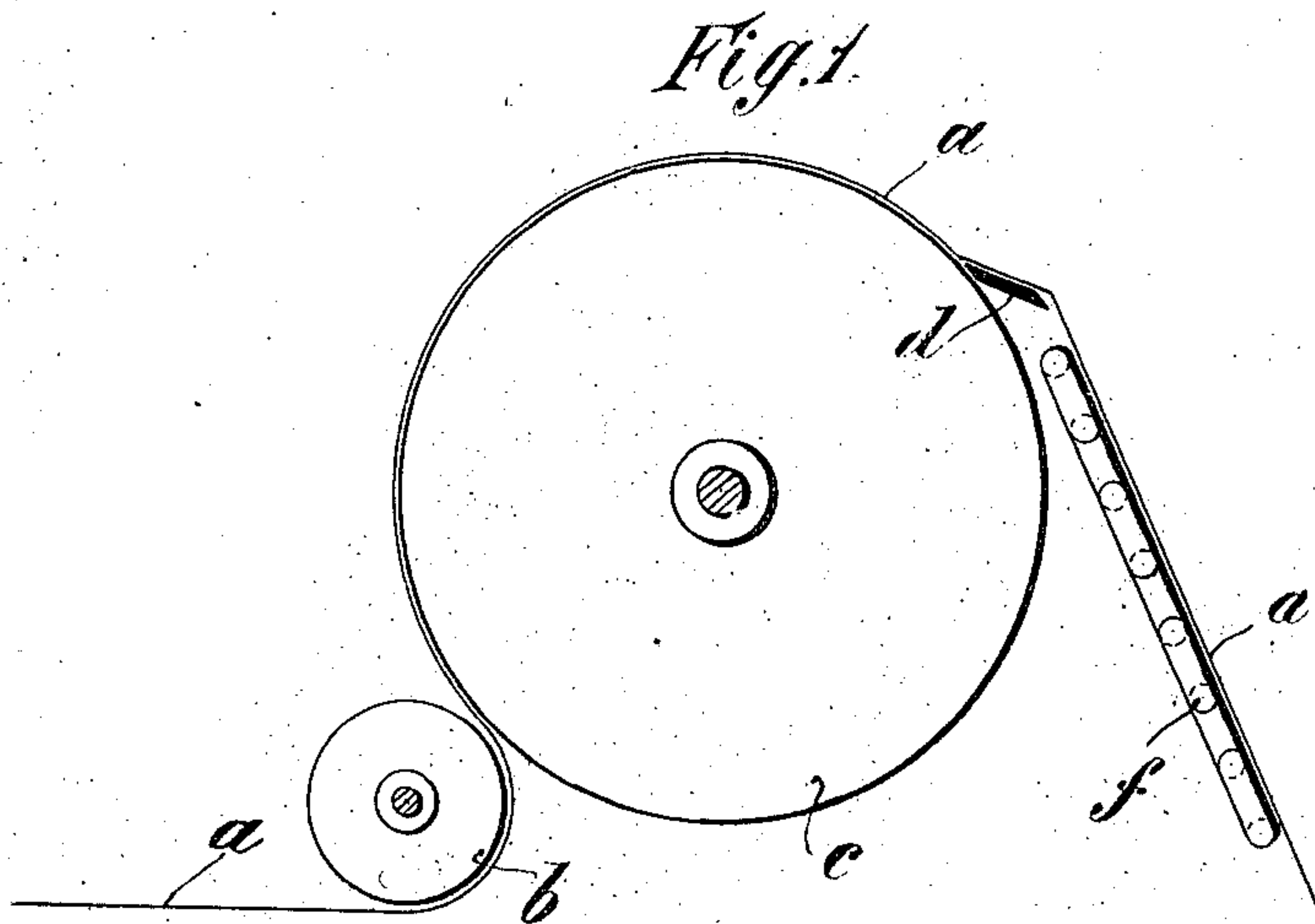
Patented Mar. 19, 1901.

H. GRETH.

APPARATUS FOR PRODUCING CRINKLED PAPER.

(Application filed July 23, 1900.)

(Specimens.)



Witnesses:  
Wm. Charles Sullivan  
J. Stewart Rice

Inventor:  
Heinrich Greth  
By  
Alexander & Lowell  
Attorneys

# UNITED STATES PATENT OFFICE.

HEINRICH GRETH, OF PLETTENBERG, GERMANY, ASSIGNOR TO ROBERT WIEGARD, OF ISERLOHN, GERMANY.

## APPARATUS FOR PRODUCING CRINKLED PAPER.

SPECIFICATION forming part of Letters Patent No. 670,401, dated March 19, 1901.

Application filed July 23, 1900. Serial No. 24,602. (No specimens.)

*To all whom it may concern:*

Be it known that I, HEINRICH GRETH, merchant, a subject of the King of Prussia, Emperor of Germany, residing at Plettenberg, in the Kingdom of Prussia and Empire of Germany, have invented certain new and useful Improvements in Apparatus for the Production of Crinkled Paper, of which the following is a full, clear, and exact description.

10 Apparatus for producing "crinkled paper," in connection with which a "scraper" is used, which strikes against the drying-cylinder over which the paper to be crinkled passes, are already known. Up to the present, however, it has not been proposed to produce a pattern in which the paper is crinkled with fine and with coarse streaks, and this effect is produced by the present invention.

The annexed drawings show one mode of carrying out my invention.

In the drawings, Figure 1 is a cross-section through the paper-carrying cylinders and scraper and drying apparatus. Fig. 2 is a view from below of the scraper and paper to be crinkled and heating-pipes.

Referring to the drawings, it will be seen that the scraper *d* is not smooth on its cutting-surface, as is the case of those hitherto in use, but is provided with indentations and protuberances, the effect of which is that the paper is crinkled in fine and coarse streaks.

The action of the apparatus, as illustrated in the drawings, is as follows: The paper *a* is guided under the cylinder *b* and whereby it is pressed against the drying-cylinder *c*. This latter cylinder carries the paper with it and partly dries it. The scraper *d* is inclined at an angle of about thirty degrees with the cylinder *c*. The scraper *d* takes the paper *a* off the cylinder in the usual manner, and thereby produces the crinkling of same, and, as will be seen from Fig. 2, is provided with indentations at its "cutting-face," so that streaked patterns are formed in the crinkling. The paper, which at this state is not yet perfectly dried, is carried over the scraper *d* and guided over the heating-cover *f*. By so drying the crinkling is well fixed in the paper, so that after the drying it will not become smooth.

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

In apparatus for the production of crinkled paper, the arrangement of indentations on the cutting-face of the "scraper" whereby a streaked pattern is produced in the crinkling, substantially as described.

HEINRICH GRETH.

In presence of—  
OTTO BENNER,  
OTTO KÖNIG.