

No. 849,454.

PATENTED APR. 9, 1907.

A. V. BEEKEN.  
PRINTING MACHINE.  
APPLICATION FILED JUNE 15, 1906.

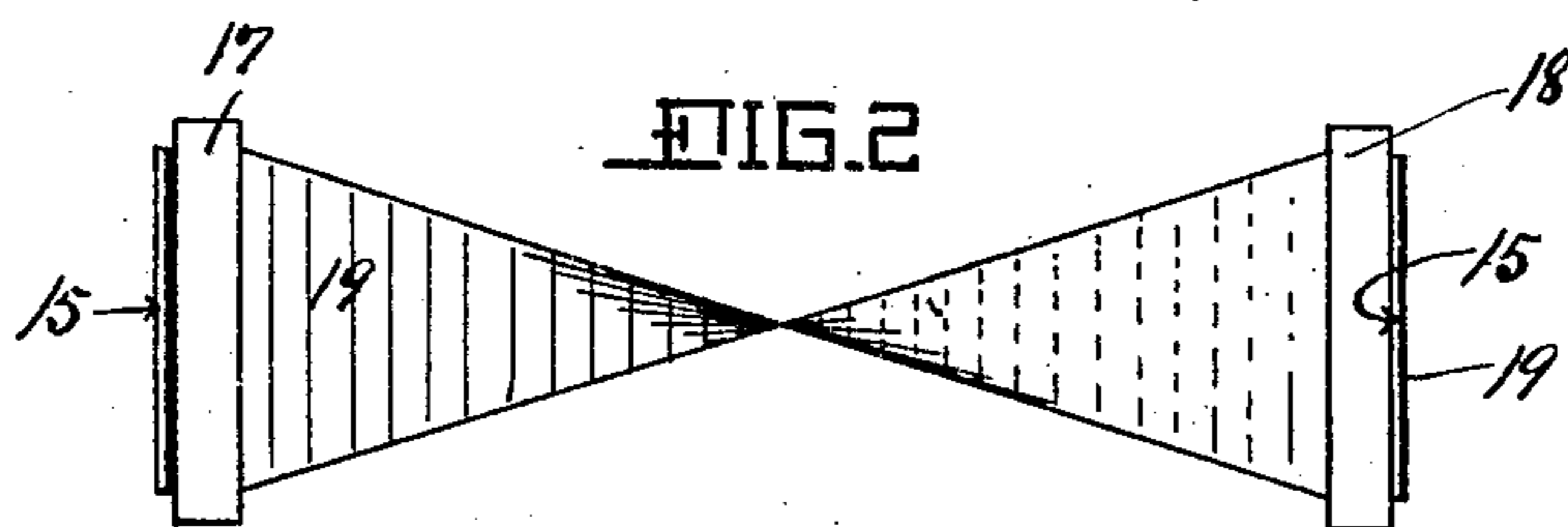
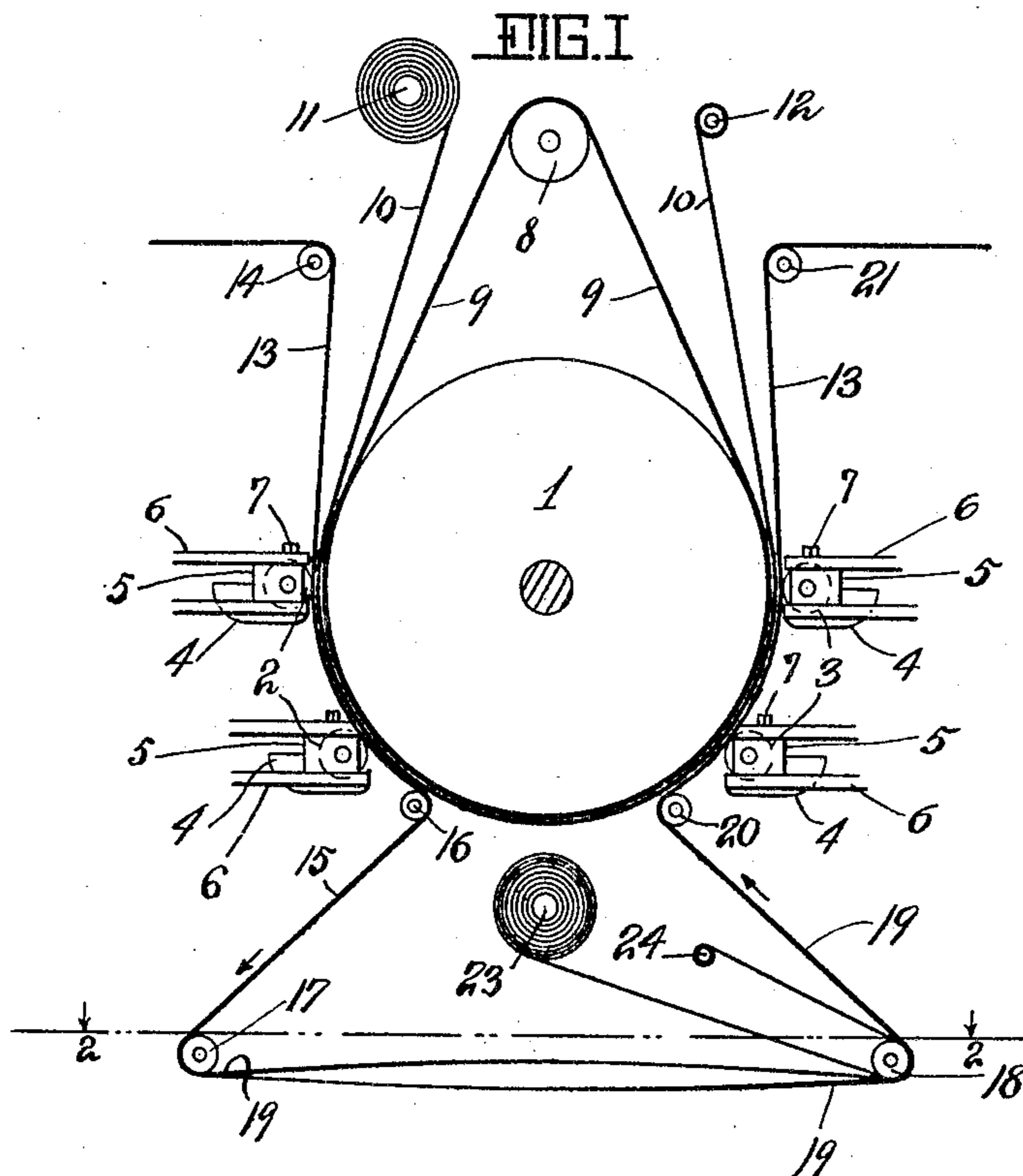


FIG. 3

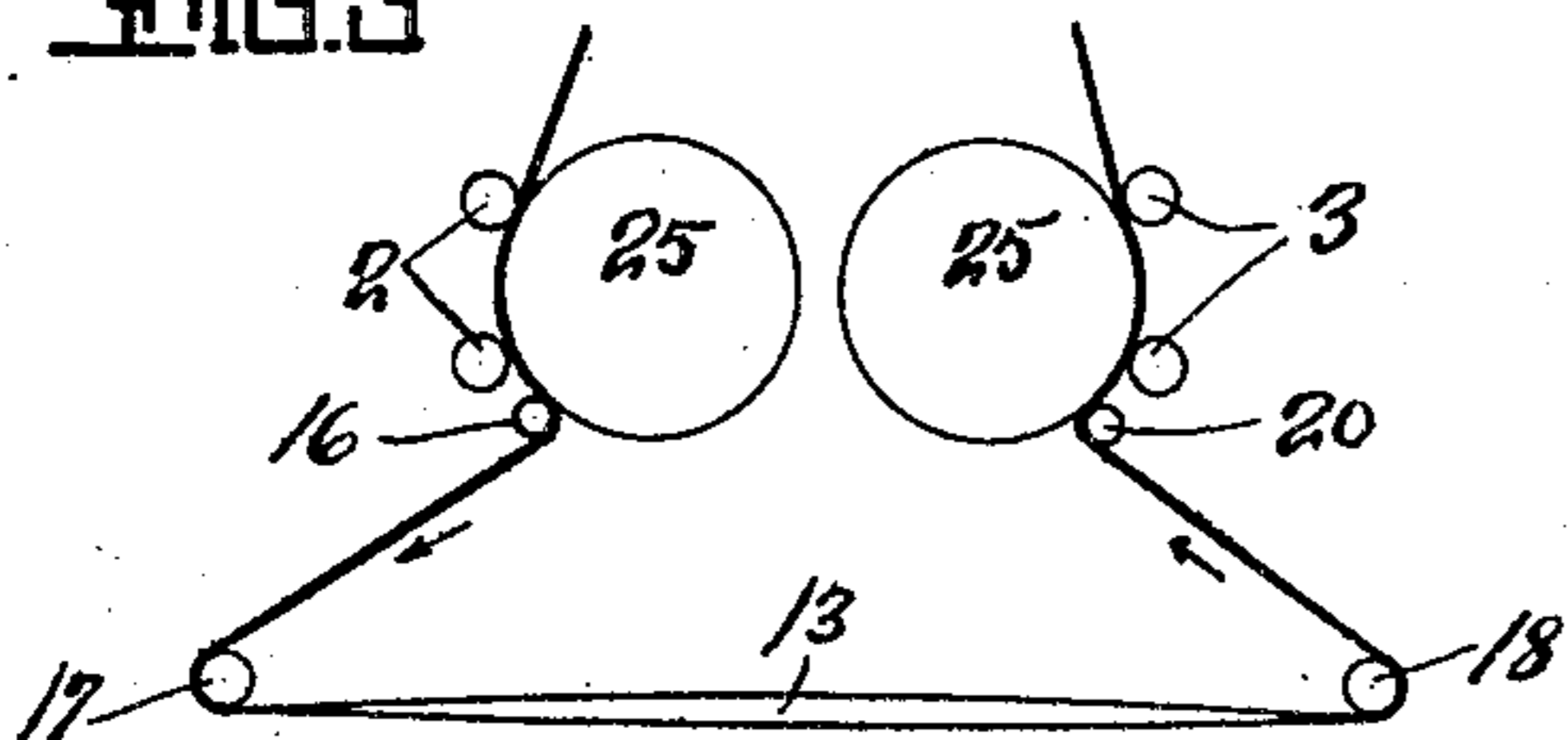
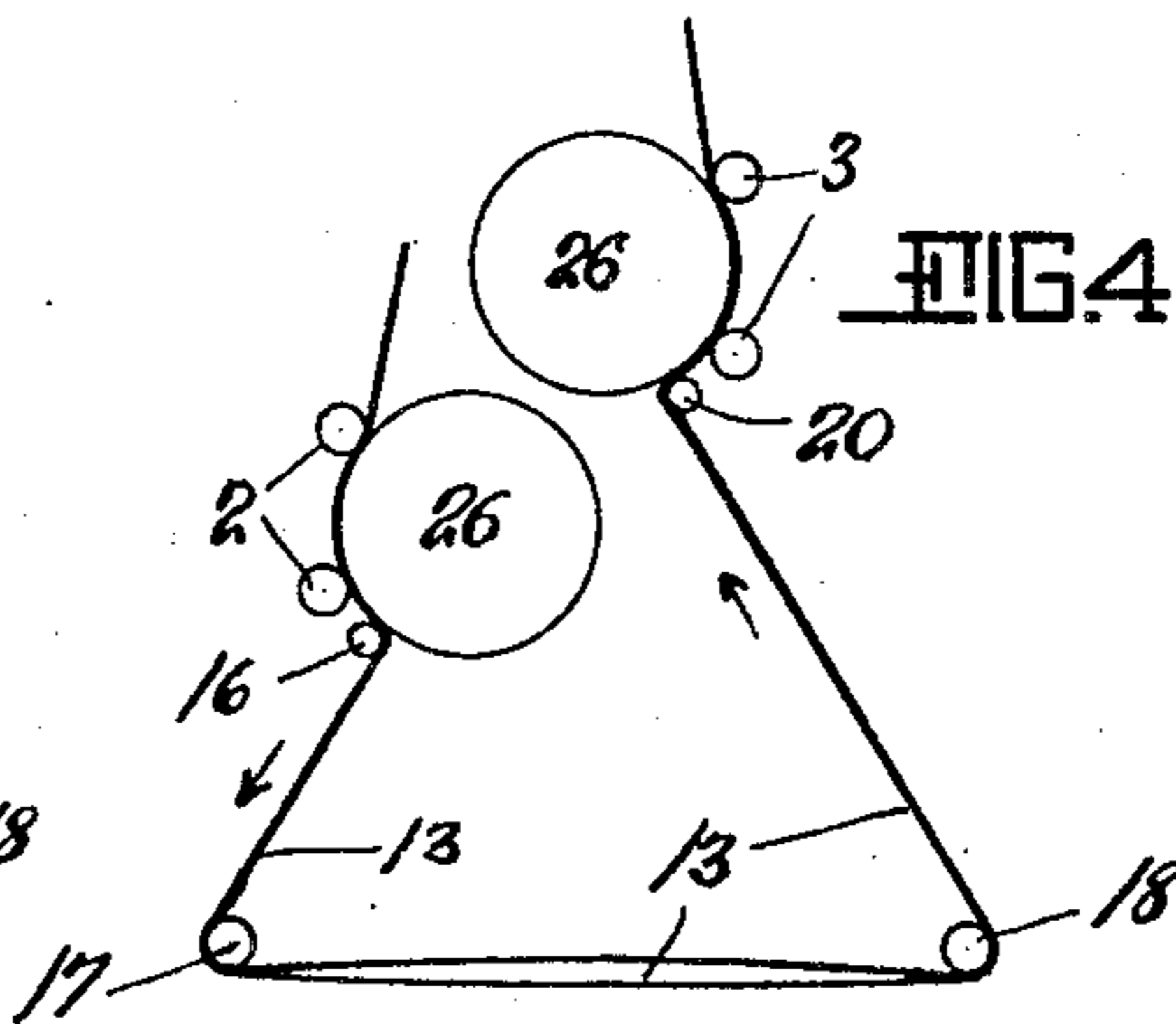


FIG. 4



Witnesses  
Ivan Horngberg  
C. Nicol

Inventor  
A. V. Beeken

# UNITED STATES PATENT OFFICE.

AXEL V. BEEKEN, OF NEWARK, NEW JERSEY, ASSIGNOR TO IRA BROWN COMPANY, A CORPORATION OF NEW YORK.

## PRINTING-MACHINE.

No. 849,454.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed June 15, 1906. Serial No. 321,801.

*To all whom it may concern:*

Be it known that I, AXEL V. BEEKEN, a citizen of the United States of America, and a resident of Newark, Essex county, State of New Jersey, have invented certain new and useful Improvements in Printing-Machines, of which the following is a specification.

The present invention relates generally to printing-machines, and has more particularly reference to a machine for printing and perfecting webs of calico, paper, or other materials.

The object of the invention is to simplify the construction of machines of this character.

The invention consists in providing two web-reversers standing substantially parallel to the axis of the impression member, between which reversing members the web is reversed by a single twist and brought back with its other side out in the same transverse plane.

In the drawings, Figure 1 is an end elevation, with the framework removed, of so much of a printing-machine as is necessary to the understanding of the invention, embodying the invention. Fig. 2 is a sectional view on line 2 2 of Fig. 1. Figs. 3 and 4 show modifications of the structure disclosed in Figs. 1 and 2.

Similar numerals of reference indicate corresponding parts in the different views.

The form of printing-machine disclosed is of the type commonly known as "calico-printing" machine, although the invention may be employed for the purpose of printing on paper or other material as well.

1 indicates the impression member, which in this instance consists of a single cylinder. 2 and 3 indicate a plurality of form members, which in the present instance are shown as the ordinary engraved copper cylinders so generally employed in printing calico. Form members of a different nature may of course be used. These form members run in the ink-fountains 4 and are mounted in the movable bearings 5, adapted to slide in the guides 6 and there be held in position by means of the set-screws 7.

Around the impression member and the idler 8 passes the usual blanket 9, so as to make the surface of the cylinder sufficiently yielding. In addition to this the roll-tympan 10 is provided for receiving the offset

when the printed side of the web is brought against the cylinder. This roll-tympan may pass from the roll 11 to the roll 12.

The web 13 is led over the idler 14 and down around the impression member, where it receives an impression on one side 15. It is then led over the idler 16 and under the bar or roller 17. The axis of this bar or roller is substantially parallel to the axis of the impression-cylinder. 18 indicates another bar or roller, also parallel to the axis of the impression member. As the web passes between these two rollers 17 and 18 it is reversed by a single twist, so as to bring its unprinted side 19 out and the printed side 15 in. From the roller 18 the web passes up around the idler 20 and then around the impression-cylinder on the other side thereof. The web is now printed on its other side and is led out of the machine over the idler 21. It will be noticed that not only is the web reversed, but it is brought back in the same plane transversely. If desired, a roll-tympan may pass from the spindle 23 to the spindle 24.

In Figs. 3 and 4 are shown modifications in which the impression member consists of two cylinders 25 and 26, in one case placed side by side and in the other case superposed. The operation here is the same as in the structure disclosed in Fig. 1.

When it is desired to print on one side only of the web, the latter is led around the cylinder in the usual way without passing through the rollers for reversing the same.

What is claimed is—

In a web-printing machine, the combination of an impression member, a plurality of coacting form members grouped around the said impression member but located in the same transverse plane, two web-reversers standing substantially parallel to the axis of the impression member between which the web is reversed by a single twist and brought back with its other side out in the same transverse plane, and guide-rolls for leading the web around the impression member.

Signed at New York city this 8th day of June, 1906.

AXEL V. BEEKEN.

Witnesses:

IVAN E. A. KONIGSBERG,  
GEO. A. MARSHALL.