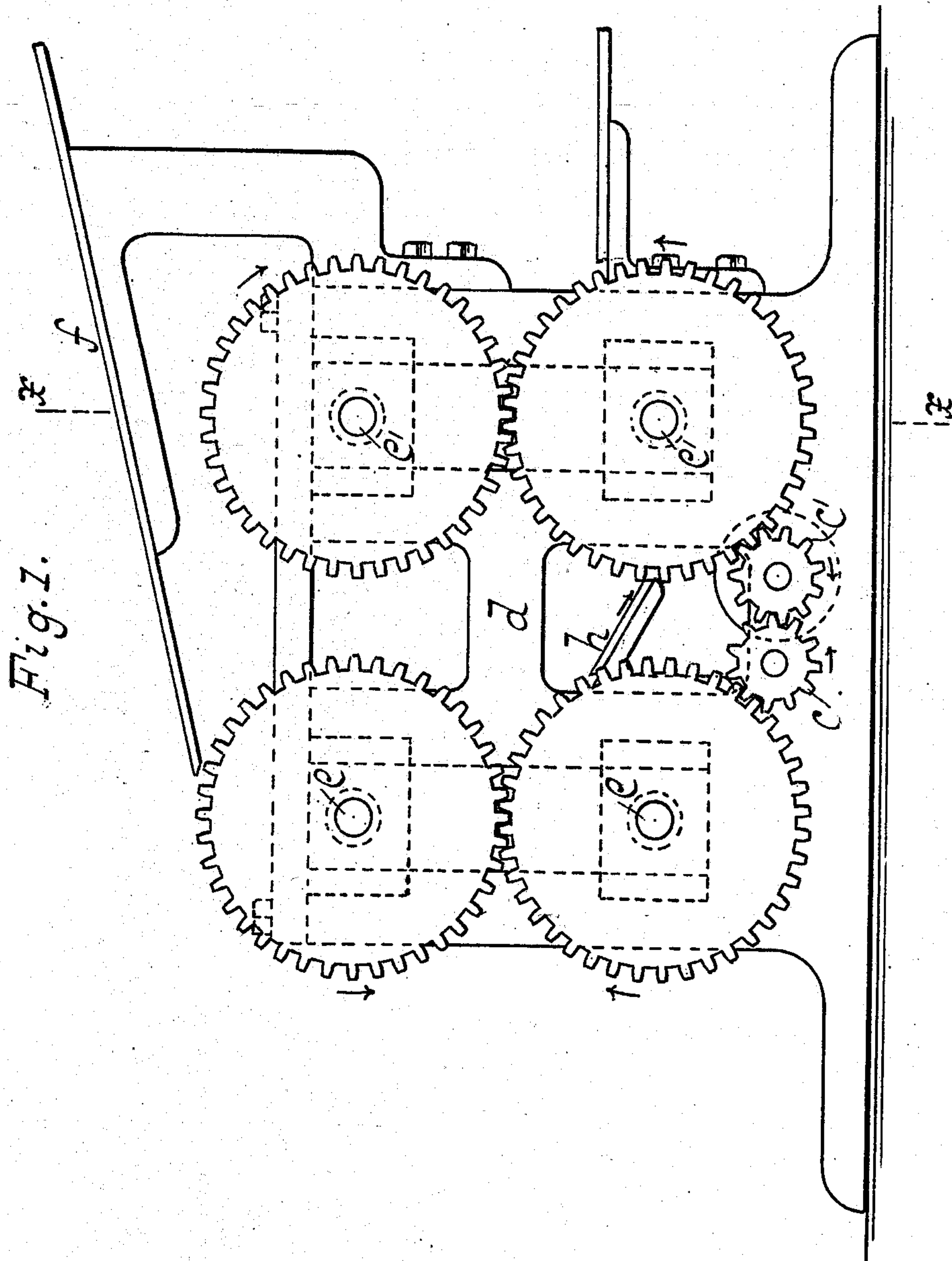


**900,622.**

APPLICATION FILED JUNE 2, 1908.

Patented Oct. 6, 1908.

4 SHEETS—SHEET 1.



William Miller  
Christian Almstaedt

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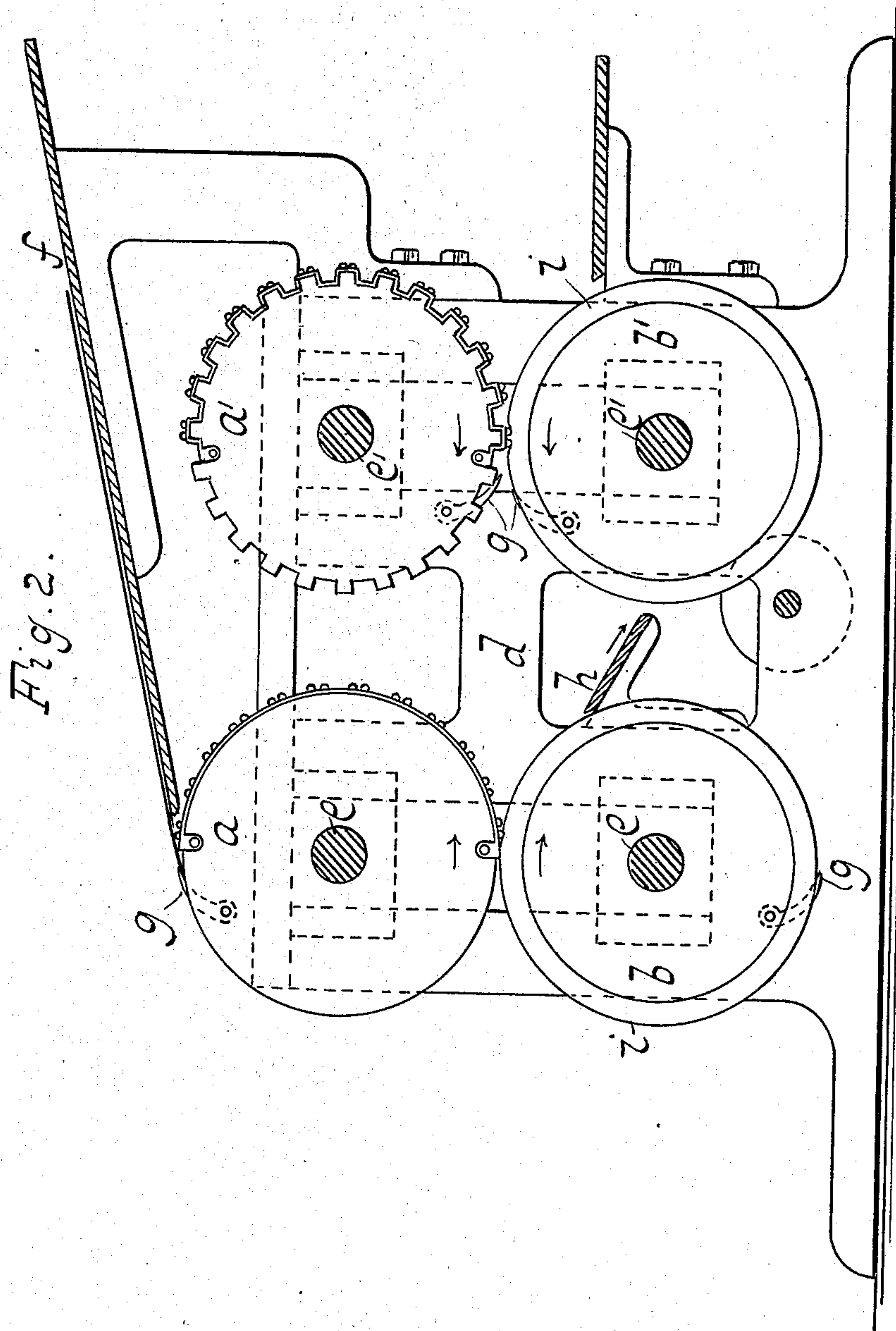
W. B. WAIT.  
PRESS FOR EMBOSSED PRINTING OF LITERATURE, MUSIC, AND THE LIKE, FOR READING  
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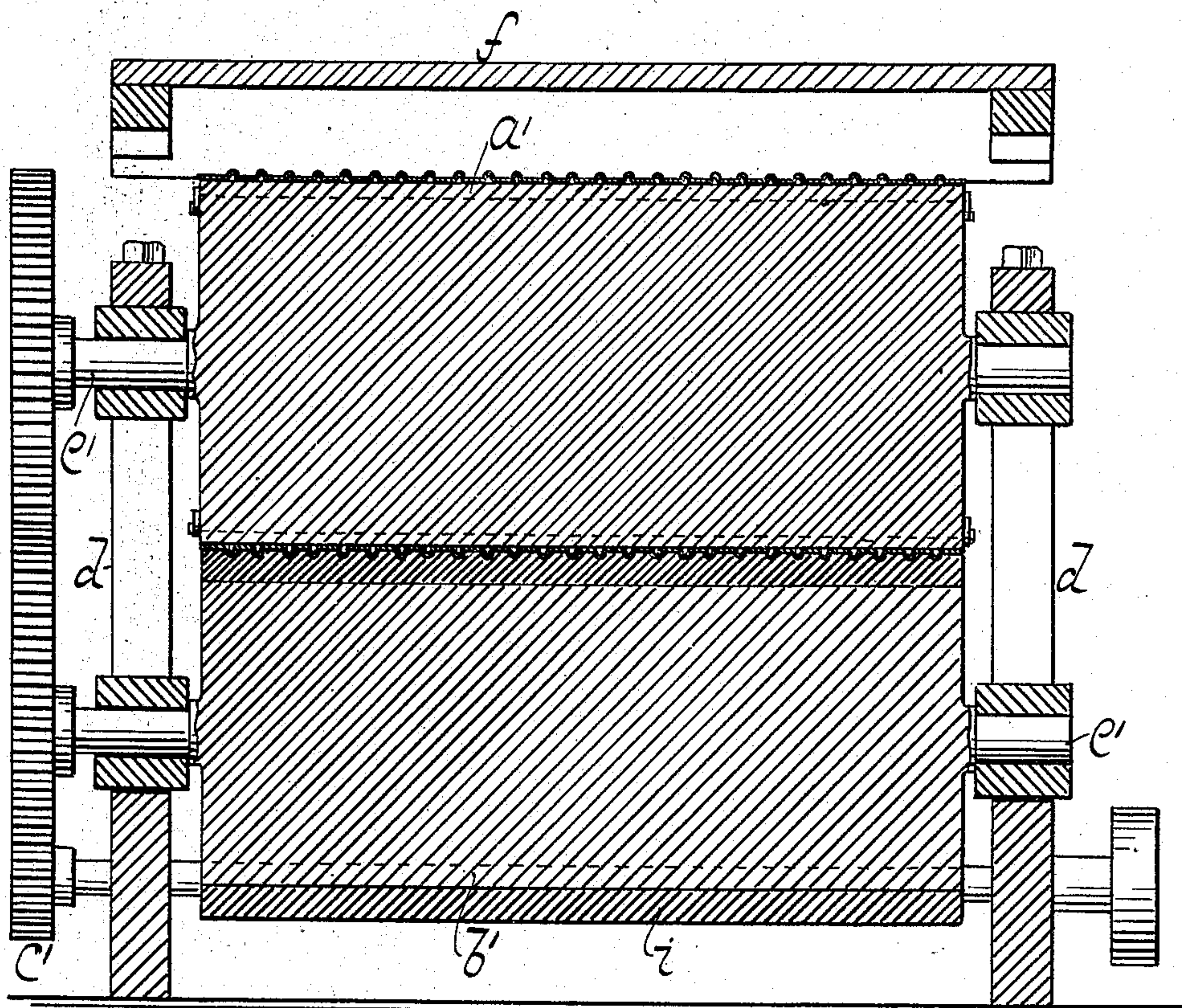
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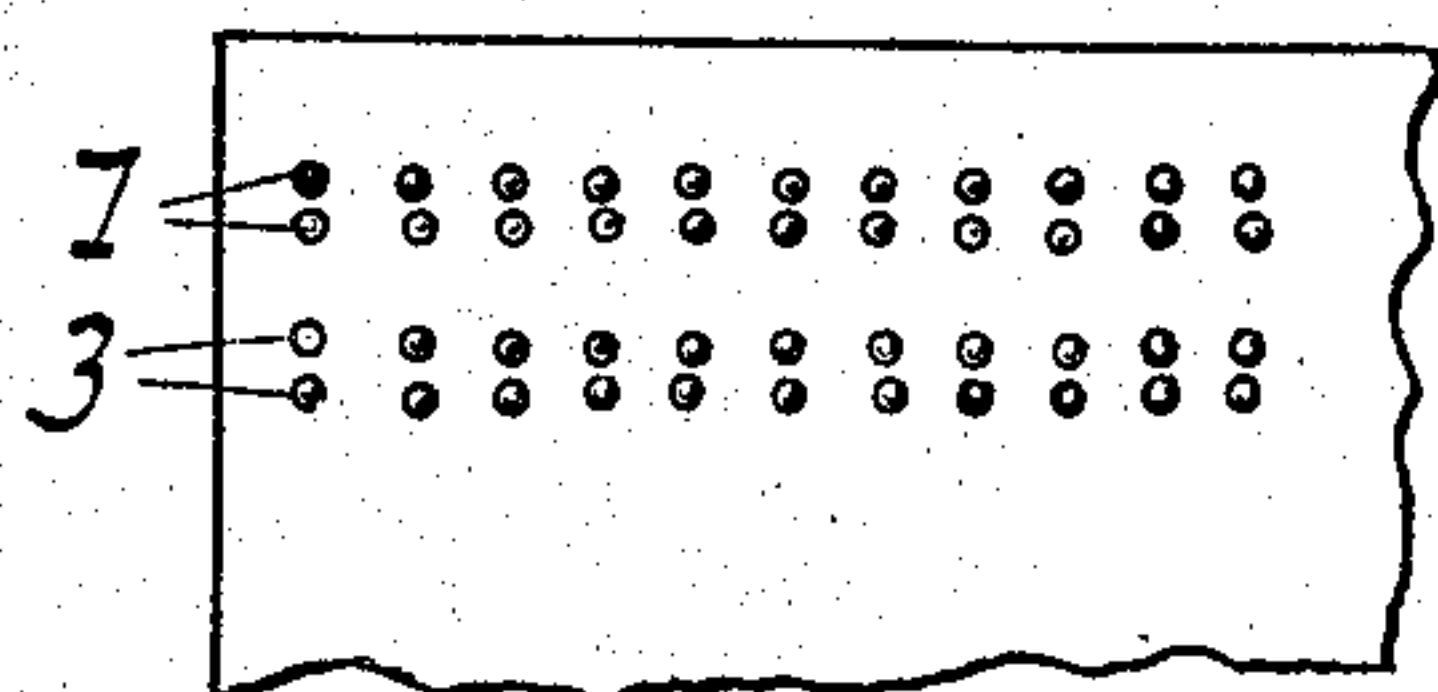
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4 SHEETS—SHEET 3.

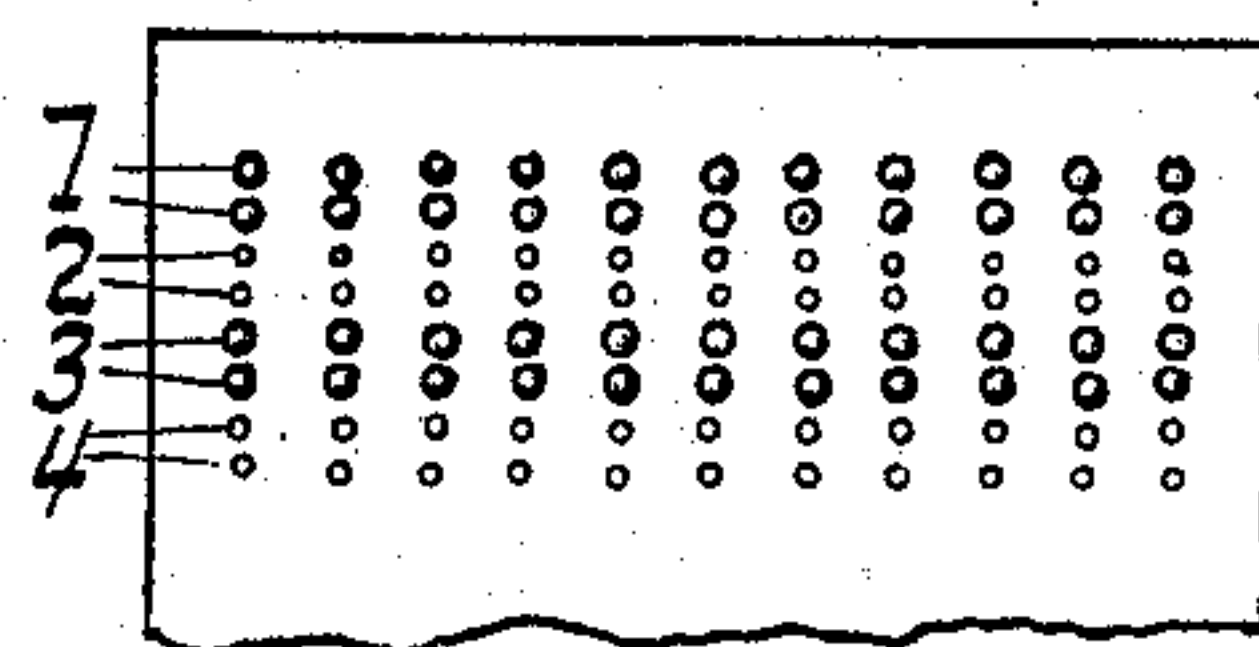
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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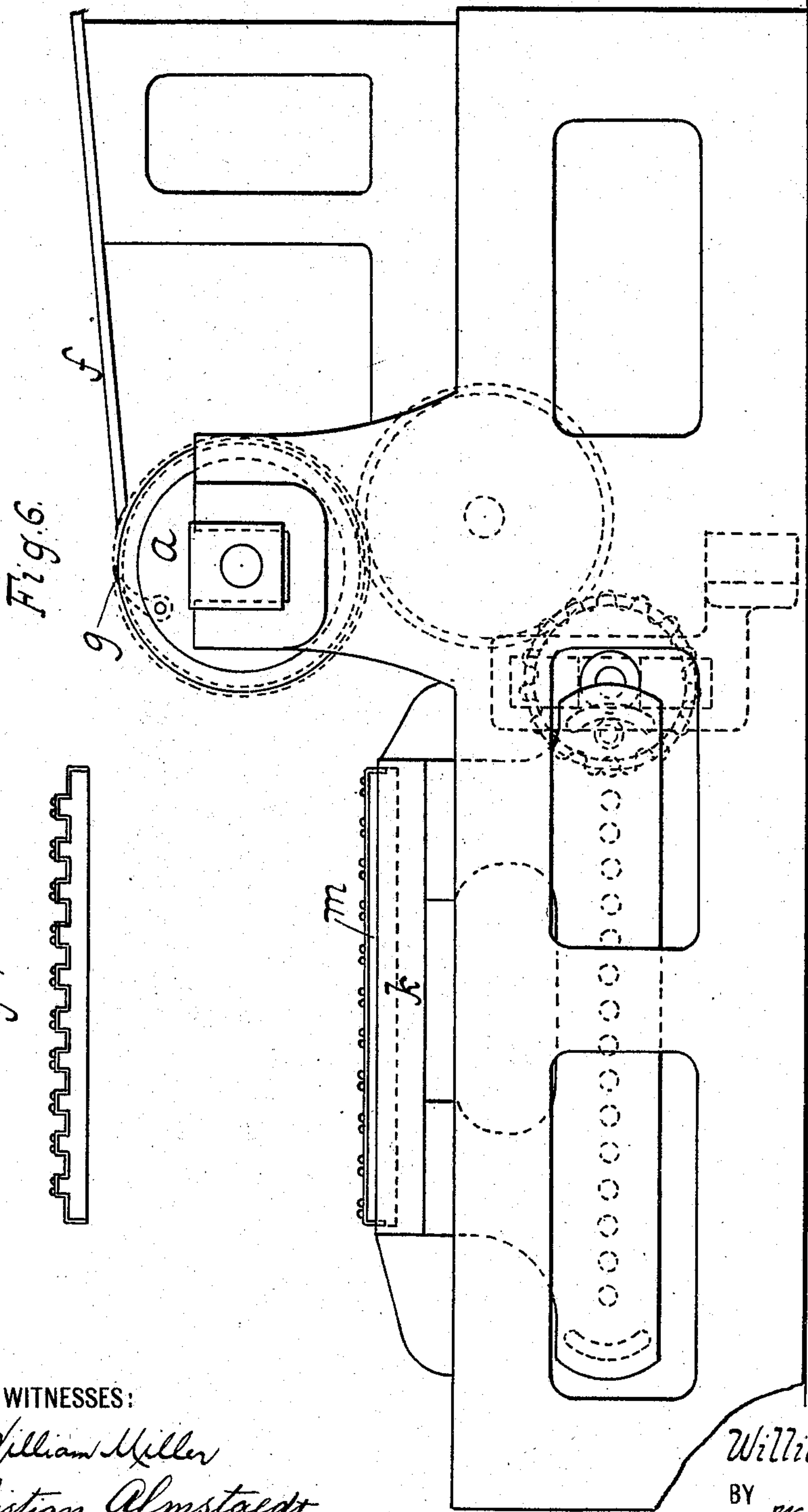
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# UNITED STATES PATENT OFFICE.

WILLIAM B. WAIT, OF NEW YORK, N. Y.

PRESS FOR EMBOSSED PRINTING OF LITERATURE, MUSIC, AND THE LIKE, FOR  
READING BY THE BLIND.

No. 900,622.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed June 2, 1908. Serial No. 436,252.

*To all whom it may concern:*

Be it known that I, WILLIAM B. WAIT, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Presses for Embossed Printing of Literature, Music, and the Like for Reading by the Blind, of which the following is a specification.

By means of this device embossed printing can be effected on both sides of a sheet.

The invention consists in certain features of construction of the machine set forth in the following specification and claim and illustrated in the annexed drawing in which:—

Figure 1 is a side elevation of an embossing press embodying this invention. Fig. 2 is a view like Fig. 1 part of the frame being removed. Fig. 3 is a section along  $xx$  Fig. 1. Fig. 4 represents a sheet printed or embossed on one side. Fig. 5 shows the sheet also printed on the other side. Fig. 6 is a side view of a modified form of press embodying this invention. Fig. 7 shows a block for printing a reverse side of a sheet in a press such as shown in Fig. 6.

The letter  $a$  designates a cylinder for carrying an embossed plate for embossing or punctographing one side of the paper.

$a^1$  is a cylinder for carrying a plate provided with elevations and depressions the elevations having the embossed characters while the depressions receive and protect the lines produced by the cylinder  $a$ .

$b$  and  $b'$  are two impression cylinders each provided with rubber periphery for protecting the impressions made on the paper.

$c$  and  $c^1$  are gears for driving the rollers in the proper direction.

$d$  is the frame of the machine.

$e$  and  $e^1$  are the cylinder shafts having journal boxes in which they run in well known way.

$f$  is the feed table and  $g$  are the grippers on each of the cylinders.

The cylinder  $a$  or  $a^1$  is each provided with grippers  $g$  of the well known construction known in printing presses and a guide portion  $h$  such as a channel can lead a sheet from one cylinder pair to another.

A covering  $i$  of rubber or soft material placed about a cylinder will receive impres-

sions of bosses and allow the formation of distinct impressions.

The indentations can be made to run on the cylinders lengthwise or circumferentially.

The operation of the machine is as follows:—An embossed plate is secured to cylinder  $a$  and a plate with elevations and embossed upon the elevations is secured to cylinder  $a^1$ . The paper is fed onto cylinder  $a$  and being carried between the impression cylinder  $b$  is embossed on one side. The sheet is then carried forward and guided to impression cylinder  $b'$  by which the sheet is brought into engagement with the plate on the cylinder  $a^1$  in such a way that the lines printed by the first plate are protected by the depressed spaces or channels between the elevations on said cylinder.

The invention consists first in providing a way for embossing on both sides of the paper as shown in Figs. 4 and 5 instead of on one side thus effecting economy and second in perfecting the impression on both sides of the sheet of paper before it is delivered from the press.

The cylinders  $a$  and  $b$  emboss lines 1, 3 and so on while the cylinders  $a^1$  and  $b'$  emboss each alternate line such as 2, 4 and so on thus producing a sheet which has the embossed part on each side as shown in Figs. 4 and 5.

The cylinder  $a^1$  could be channeled to receive a channeled plate having bosses on its elevated portions and such channels will receive and protect the impressions on one side of a sheet while the other side is being printed. Or said cylinder  $a^1$  could have a smooth circumference and the channeled plate placed thereon could be sufficiently rigid to resist the pressure required for the second set of impressions while at the same time protecting the first set of impressions.

Modifications are of course included in this invention. In Fig. 6 for example is shown a cylinder  $a$ . A type bed  $k$  can reciprocate in contact with the cylinder. When a block or type  $m$  are run past the cylinder a sheet on the block will receive impressions or the said lines 1 and 3 will be printed. The block  $m$  can then be moved and a block as shown in Fig. 7 placed on the type bed. This block has depressions or channels beside the bosses. The sheet just printed on one side can be re-



versed and placed on the block (Fig. 7), the impressions on the sheet being protected by being made to register with the channels in the last named block. The sheet then passing again through the press the lines 2 and 4 will be produced.

What I claim is:—

1. In a press for embossed printing two pairs of cylinders one of the cylinder pairs having an embossed plate and a succeeding cylinder provided with a plate having depressed spaces and elevations for receiving and protecting the impressions produced by the first cylinder pair while forming impressions on the reverse side of a sheet.

2. In a press for embossed printing two pairs of cylinders adapted to emboss opposite sides of a sheet, each cylinder of a pair provided with an embossing plate, one of the cylinders of each pair having a soft blanket for receiving indentations or impressions, and a cylinder of the other pair having depressed

spaces to receive the indentations already formed on one side of the sheet while the opposite side thereof is being embossed. 25

3. In a press for embossed printing two pairs of cylinders, one of the cylinder pairs having an embossed plate, and a succeeding cylinder having its surface channeled and provided with a plate suitably ridged to fit the channels, said ridged plate being embossed on its elevated portions, said channeled portions being made to receive and protect the impressions formed by the first plate during the formation of the second set of impressions. 30 35

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

WILLIAM B. WAIT.

Witnesses:

CHRISTIAN ALMSTAEDT,  
EDWARD WIESSELL.