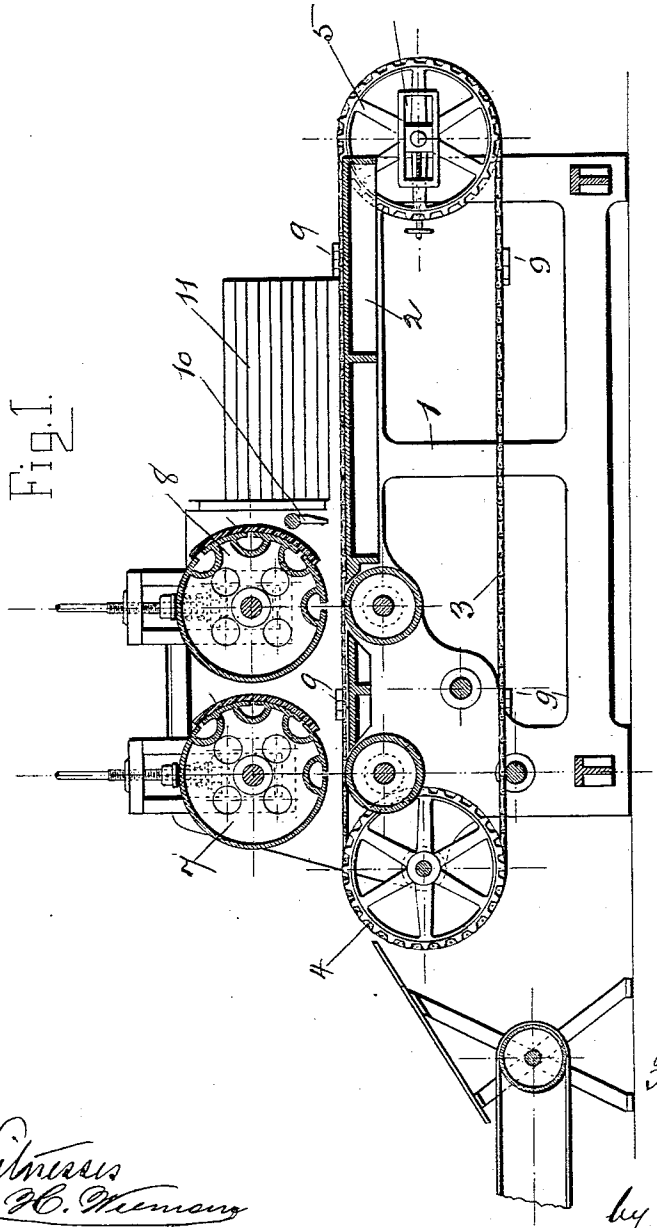
(No Model.) 4 Sheets—Sheet 1.

F. X. HOOPER.

PRINTING PRESS.

No. 557,582. Patented Apr. 7, 1896.

Fig. 1.



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(No Model.) 4 Sheets—Sheet 2.

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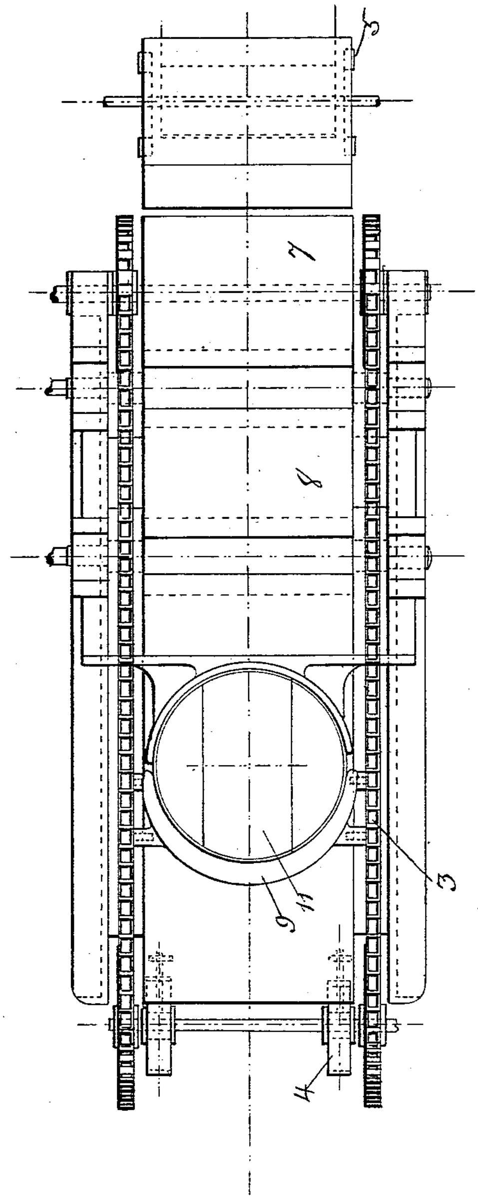
Fig 2



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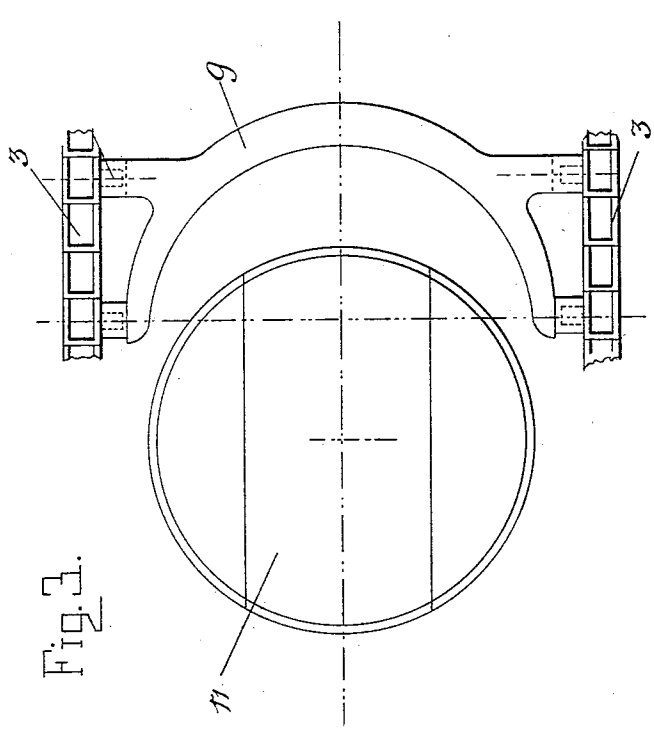

Fig. 1.

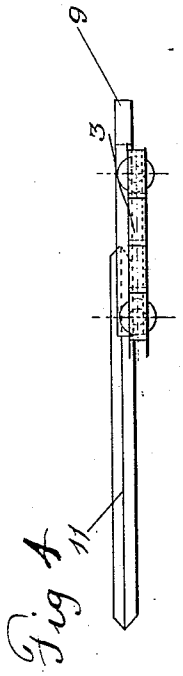

Fig. 4.

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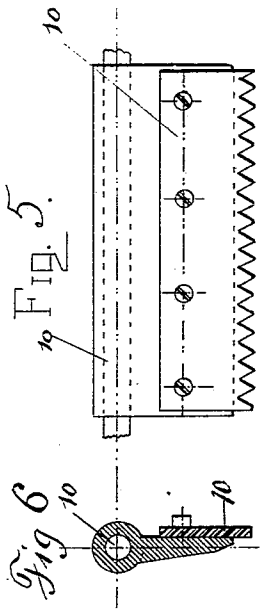

Fig. 5.

Fig. 6.

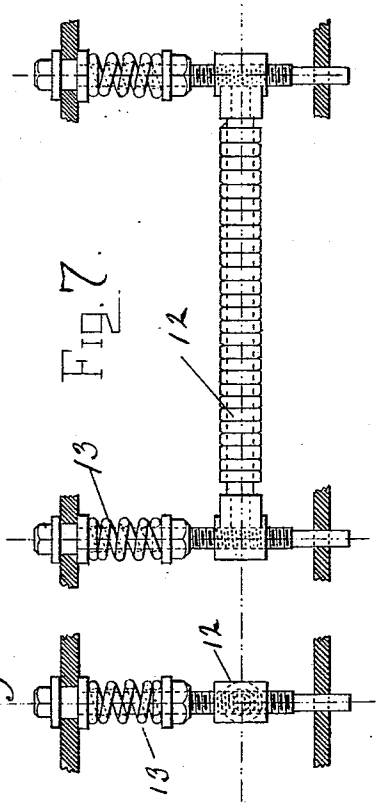

Fig. 7.

Fig. 8.

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UNITED STATES PATENT OFFICE.

FRANCIS X. HOOPER, OF BALTIMORE, MARYLAND.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 557,582, dated April 7, 1896.

Application filed June 15, 1895. Serial No. 552,965. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS X. HOOPER, a citizen of the United States, and a resident of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Printing-Presses, of which the following is a specification.

My invention relates to a machine for printing boards which are divided into several pieces. The particular application of the machine is for printing barrel-heads. I prefer to print barrel-heads in two colors, and in doing so I use a machine analogous to that described in patent granted to F. X. Hooper and W. Hollingsworth, No. 359,972, dated March 22, 1887.

In the drawings, Figure 1 is a vertical longitudinal section of the machine. Fig. 2 is a plan. Fig. 3 is an enlarged detail of the feed-knocker. Fig. 4 is a side elevation of the same. Fig. 5 is a front elevation of the brush or retarding device. Fig. 6 is a vertical section of the same. Fig. 7 is a front elevation of an alternative retarding device. Fig. 8 is a side elevation of the same.

Referring to Fig. 1, 1 is the frame of the machine.

2 is the bed.

3 is a feed-chain.

4 and 5 are sprocket-wheels mounted in a frame by which the feed-chain is driven.

7 and 8 are two printing-rollers suitably geared with the driving mechanism, so as to turn in the proper order in relation to the feed.

9 9 9 9 are feed-knockers secured upon the feed-chain in the manner shown in Figs. 3 and 4, and as shown in those figures the knocker is approximately semicircular in shape and conforms in outline to a barrel-head which is divided into several pieces.

In order to feed a barrel-head or other board divided into several parts on the feed-belt, it is necessary to provide a knocker of peculiar form conforming in shape to the barrel-head or other board, and this feed of an irregular shape presses all the pieces of the board forward at the same time.

10, Fig. 1, is a brush or retarding device mounted above the feed-chain in position where it will strike the top surface of a board as it is fed beneath it and retard the forward motion of the pieces of barrel-heads.

11 is a pile of barrel-heads, and the knocker 9 strikes the bottom one of the pile and pushes it out from under the pile and underneath the retarding device 10.

The retarding device 10 consists of a brush or piece of rubber either indented or smooth upon its edge, or it may be a device similar to that shown in Figs. 7 and 8, which consists of a series of rubber rollers 12 held down in suitable position by springs 13. The object of this retarding device is to push the several pieces of the board backward into the knocker and cause them to fit closely into the knocker and thus register with one another for printing.

The primary object of this invention is to print any desired matter upon a barrel-head composed of several pieces and maintain the barrel-head in circular form or alinement while being printed, so as to cause the printed matter to register when the head is put in a barrel. To accomplish this result, the barrel-heads are placed in the receiver, one upon the other, with the divisions between the parts forming each head parallel to the feed. This is an essential feature in the mode of operation. The holder containing a number of barrel-heads is curved so as to fit the circle of the barrel-head, and the boards are pressed into it when placed in the machine so as to bring them into circular alinement and force the edges of the several pieces together closely. When the bottom barrel-head, consisting of several pieces, drops onto the table between the feed-chains, the pieces are, in consequence of the alinement produced by the holder, in circular form. While thus lying upon the table, they are struck by the curved knocker, which is of the same radius as the curve of the barrel-head, and fed forward by it, still being retained in circular alinement and the edges of the pieces pressed closely together by the curve of the knocker, and are thus held by the curved knocker in circular alinement while being carried to the printing and feed rollers, by which they are caught and printed in this position. It will be seen that the position of the boards and the maintenance of that position in a divided barrel-head is of the utmost importance.

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

1. In a machine for printing barrel-heads consisting of several pieces, the combination of printing-rollers, a curved barrel-head holder being of the same radius as the barrel-head and opening in a direction away from the direction of the feed, and a feed-belt carrying an oppositely-curved knocker also of the same radius as the barrel-head, the curved knocker being arranged to engage the ends of the boards forming the barrel-head to be printed, and to hold them in a circular form while being carried to the printing-rollers, as and for the purpose specified.

2. In a machine for printing barrel-heads, consisting of several pieces, the combination of printing-rollers, a curved barrel-head holder semicircular in form being of the same radius as the barrel-head and opening in a direction away from the direction of the feed, and a feed-belt carrying an oppositely-curved knocker semicircular in form also of the same radius as the barrel-head, the curved knocker being arranged to engage the ends of the boards forming the barrel-head to be printed and to hold them in a circular form while being carried to the printing-rollers, as and for the purpose specified.

Signed at Baltimore city, in the State of Maryland, this 10th day of June, A. D. 1895.

FRANCIS X. HOOPER.

Witnesses:
JOHN L. HEBB,
MARSHALL TYSON.