(No Model.)

S. PEMBER & S. BIRD.

PAPER FOR CARPET LININGS, &c.

No. 285,839. Patented Oct. 2, 1883.

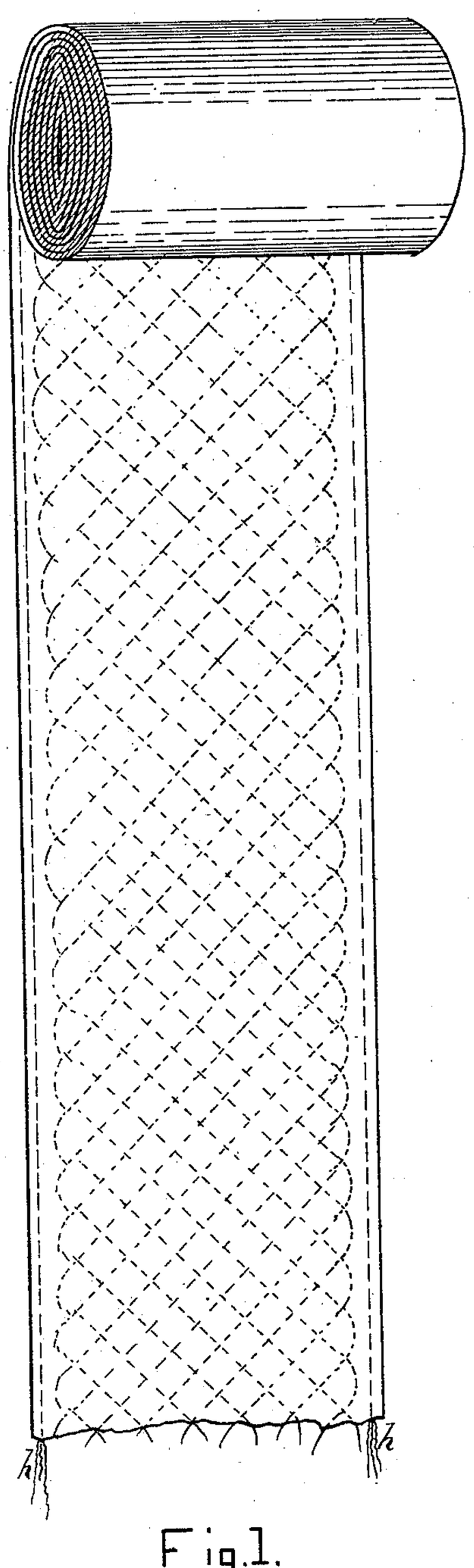

Fig. 1.

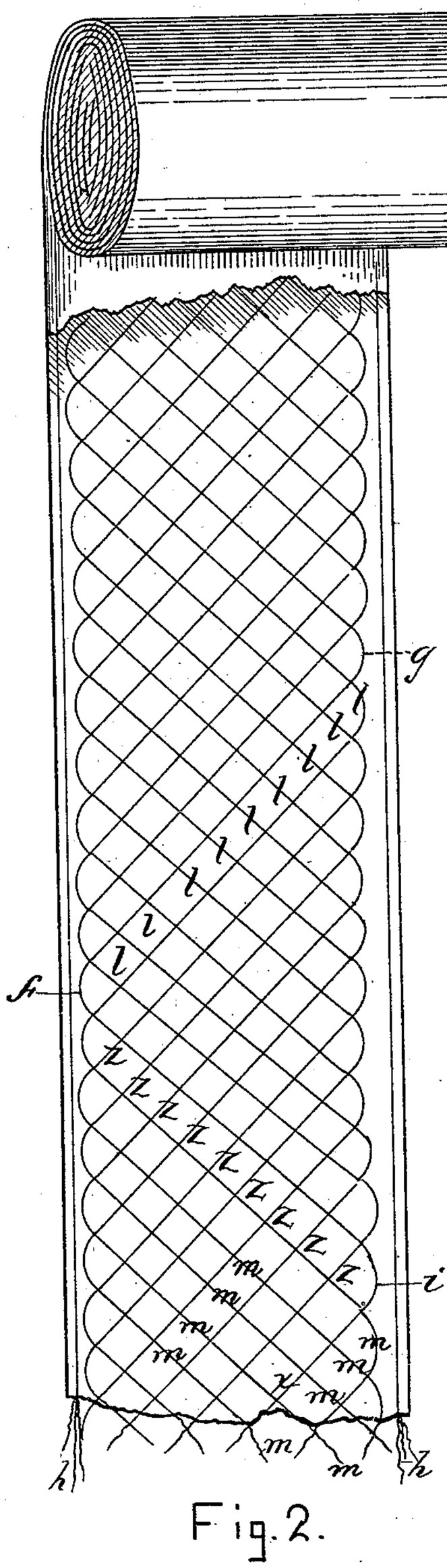

Fig. 2.

Witnesses:
H. E. Remick
E. C. Heath

Inventor:
Stephen Pember,
Samuel Bird,
Per C. A. Shaw
Atty.

UNITED STATES PATENT OFFICE.

STEPHEN PEMBER AND SAMUEL BIRD, OF WALPOLE, MASSACHUSETTS.

PAPER FOR CARPET-LININGS, &c.

SPECIFICATION forming part of Letters Patent No. 285,839, dated October 2, 1883.

Application filed August 27, 1883. (No model.)

To all whom it may concern:

Be it known that we, STEPHEN PEMBER and SAMUEL BIRD, of Walpole, in the county of Norfolk, State of Massachusetts, have invented a certain new and useful Improvement in Paper for Carpet-Linings, &c., of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view representing a roll of our improved paper complete; and Fig. 2, a sectional view, a portion of the outer coating of the paper being removed to show the threads or twines.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

Our improvement relates more especially to that class of paper which is employed in the manufacture of carpet-linings; and it consists in a sheet or strip of paper provided with threads or twines laid or arranged in a novel manner, and embedded in the body of the paper while in the machine, as hereinafter more fully set forth and claimed, by which a stronger and more desirable article of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation, its extreme simplicity rendering an elaborate description unnecessary.

In Fig. 2 of the drawings one side of the sheet or strip of paper is represented as removed to show the threads or twines, which are laid alternately over and under each other, as will be better understood by following or tracing a single thread in its course. For instance: The thread *x* passes over the threads *m* until it reaches the edge of the strip at the point *i*, where it turns inwardly and runs diagonally across the strip under the threads *z* to the point *f* on the opposite side, where it again turns and passes diagonally across the strip over the threads *l* to the point *g*, and so on alternately over and under the threads and diagonally from side to side of the strip or sheet throughout its entire length. In the strip of paper represented in Fig. 2 twelve threads or twines are used, which are laid diagonally across the strip, first over and then under each other, as described; but this number may be increased or decreased at pleasure. Embedded in each edge of the strip there are a series of straight twines or threads, *h*, which run the entire length of the strip, and are designed to strengthen it longitudinally and prevent it from tearing on the edges. One or more of the straight twines may be used, or they may be omitted entirely, if desired. The bends *f i*, formed in the threads near the edges of the strip, afford a firm hold for the tacks in nailing down the paper, which is greatly strengthened by the crossing and recrossing of the threads, as described.

The letters *z l* are, strictly speaking, not designed to indicate different threads, but different layers or sections of the same threads.

The threads or twines are inserted in the paper during its manufacture, as it passes through the machine, by means of any suitable mechanism for that purpose, being embedded in the body of the paper while in a pulpy state.

Although designed principally for use in the manufacture of carpet-linings, our improved paper is also well adapted for a great variety of other purposes which will readily suggest themselves, and we do not therefore confine ourselves to its use for any special purpose. The employment of the threads or twines, as described, also enables a very strong paper to be produced with much less paper-stock than is ordinarily required, the position of the threads being indicated on the surface of the paper, as shown in Fig. 1, when it is very thin.

Having thus explained our invention, what we claim is—

1. As an improved article of manufacture, a sheet or strip of paper having a series of threads embedded in its substance or body during manufacture, said threads passing diagonally from side to side, and being crossed and recrossed in the sheet or strip and also passed alternately over and under each other without being interwoven, substantially as set forth.

2. As an improved article of manufacture, a sheet or strip of paper having a series of

threads embedded in its substance or body during manufacture, said threads passing diagonally from side to side, and crossing and recrossing the sheet or strip, and also passing alternately over and under each other, in combination with a straight thread or threads embedded in the substance or body of the paper at either edge, substantially as specified.

3. As an improved article of manufacture, a sheet or strip of paper having a thread or threads, *h*, embedded in its substance or body during manufacture, and extending along its edge, to prevent it from tearing, substantially as set forth.

STEPHEN PEMBER.
SAMUEL BIRD.

Witnesses:
C. A. SHAW,
L. J. WHITE.