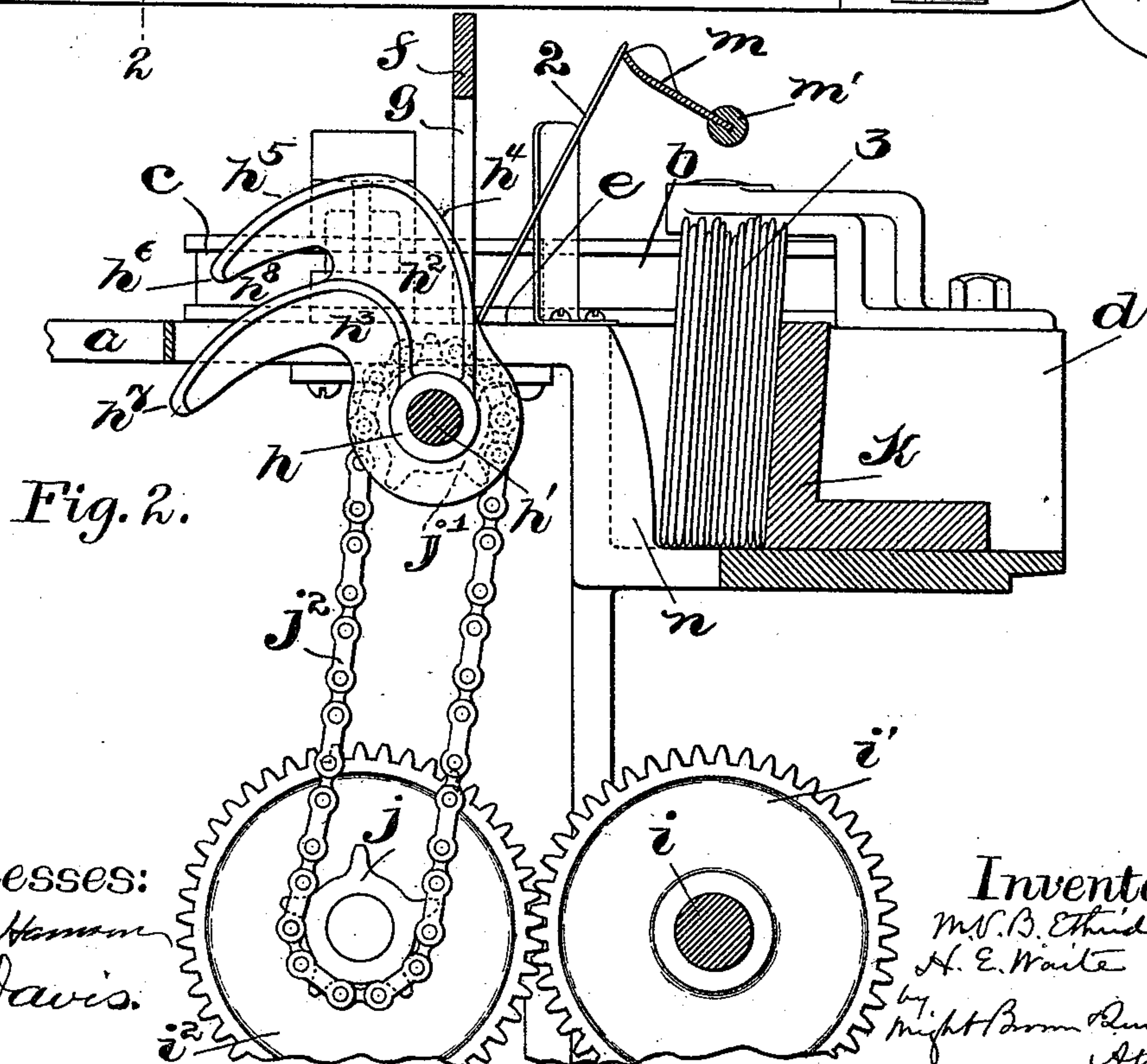
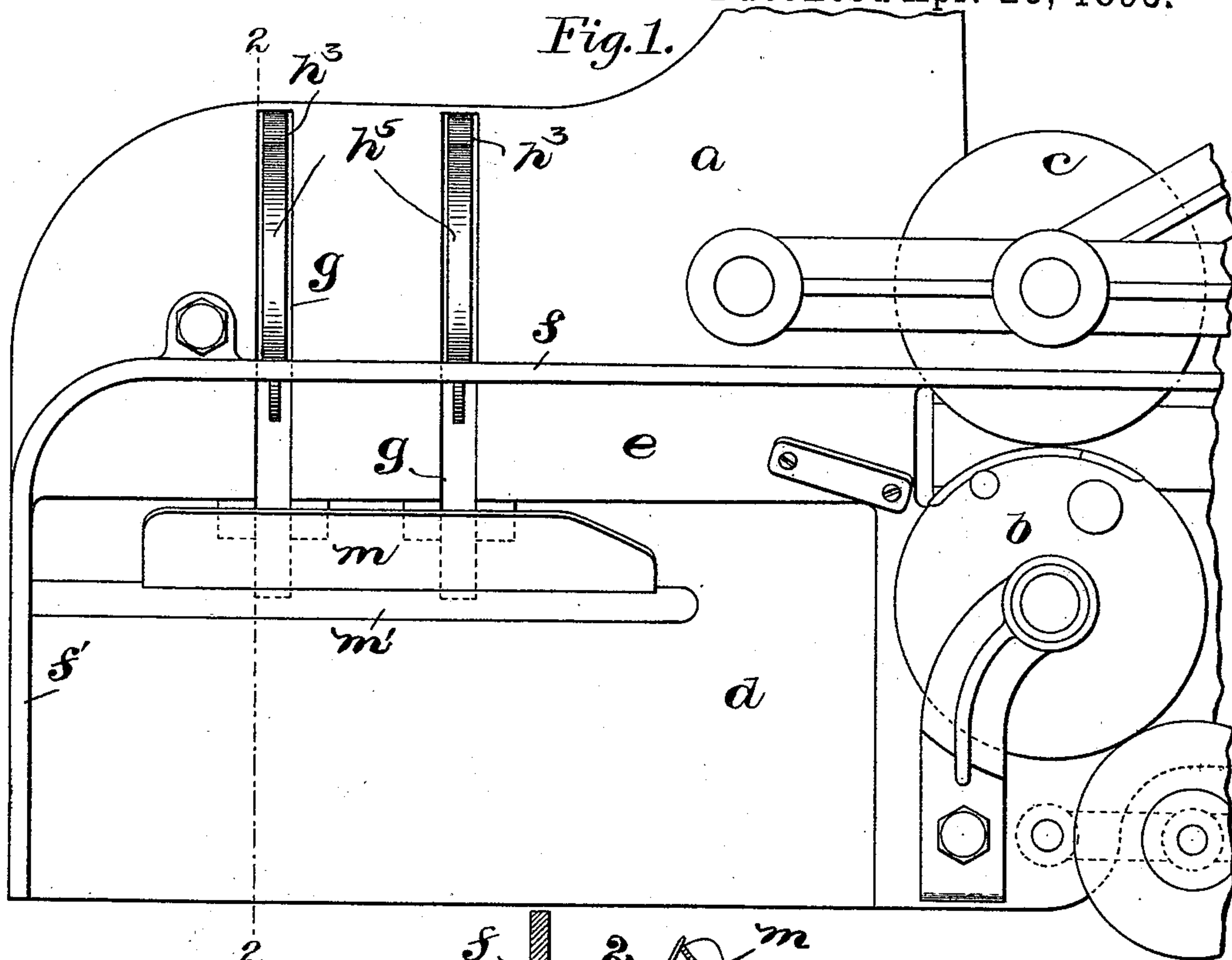


2 Sheets—Sheet 1.

MAIL MARKING MACHINE.

Patented Apr. 23, 1895.



Witnesses:

A. D. Hammon
L. Davis.

Inventors:

M. V. B. Ethington
H. E. Waite

by night from Dudley
Atty!

(No Model.)

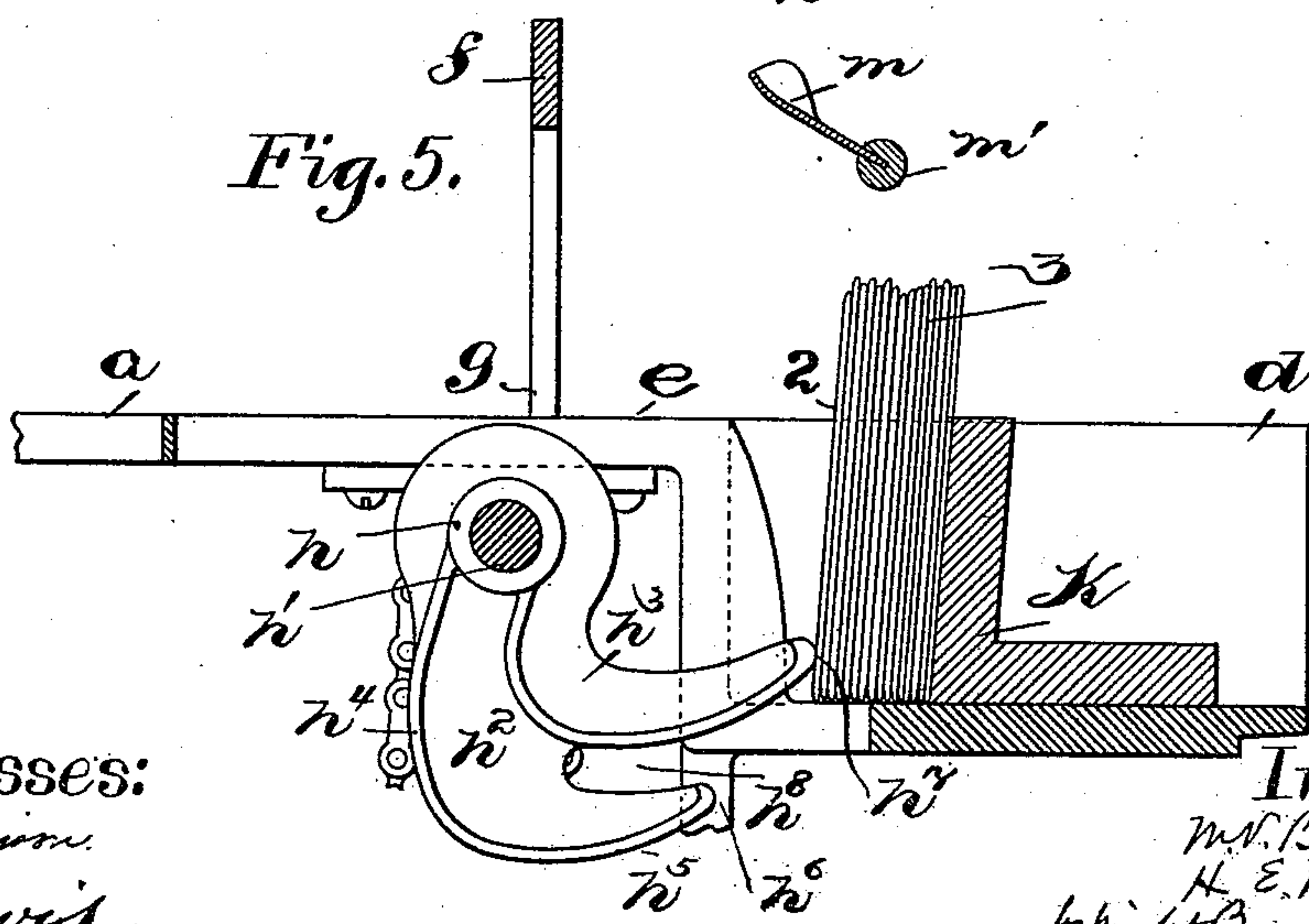
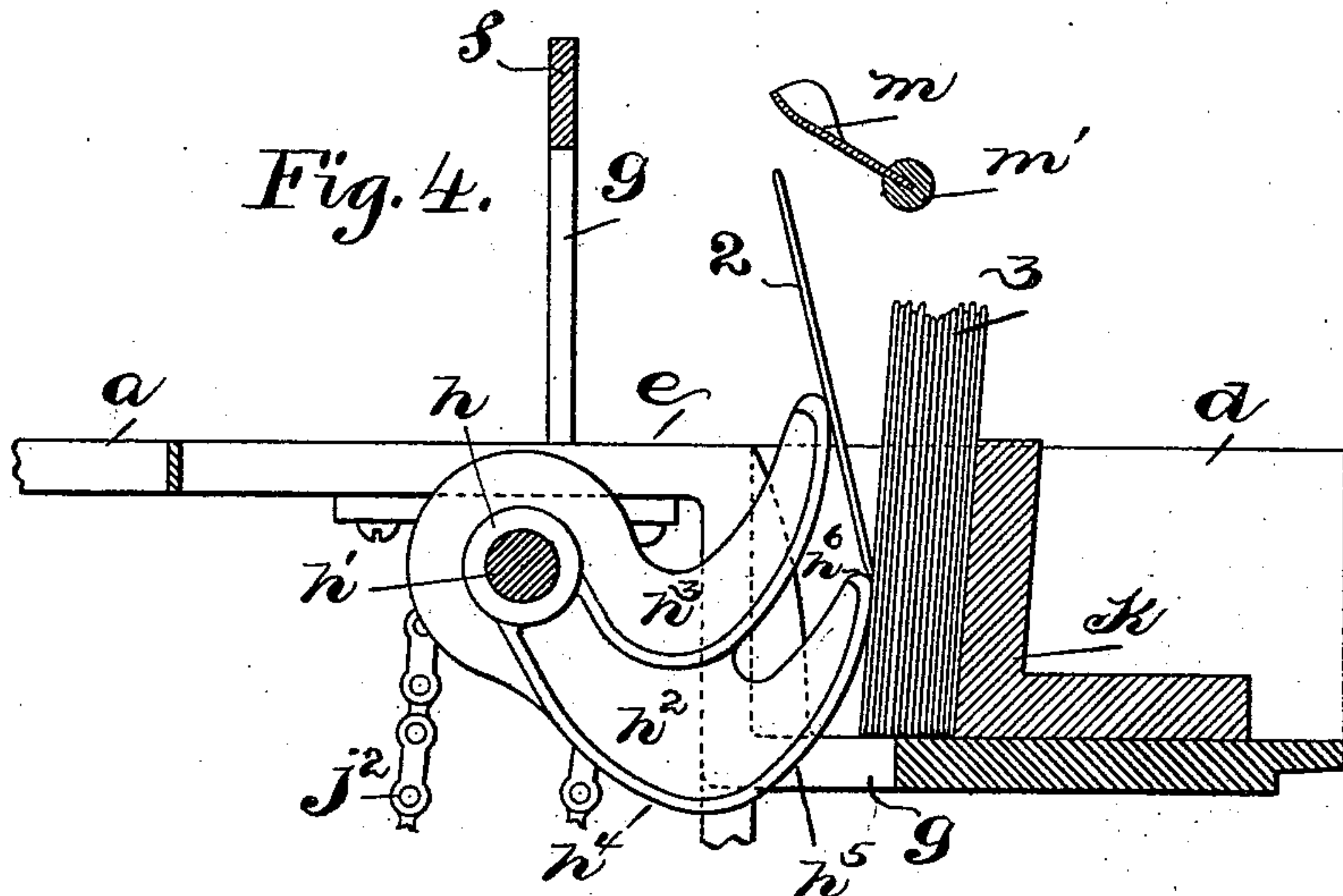
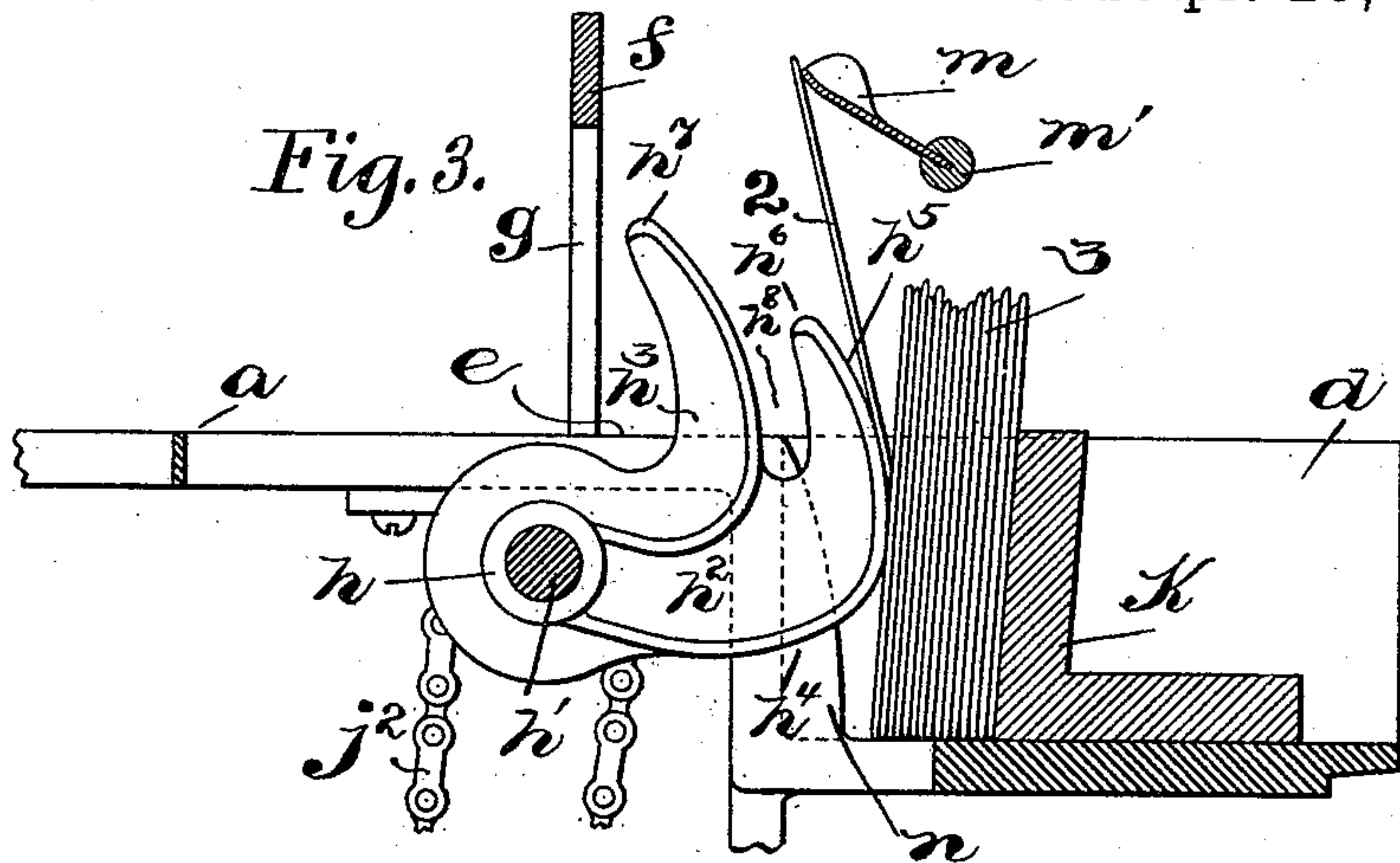
2 Sheets—Sheet 2.

M. V. B. ETHRIDGE & H. E. WAITE.

MAIL MARKING MACHINE.

No. 538,019.

Patented Apr. 23, 1895.



Witnesses:

A. D. Harmon.

J. Davis.

Inventors:

M. V. B. Ethridge

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Attys

UNITED STATES PATENT OFFICE.

MARTIN V. B. ETHRIDGE, OF EVERETT, AND HENRY E. WAITE, OF NEWTON,
ASSIGNORS TO CHARLES F. BROWN, OF READING, MASSACHUSETTS.

MAIL-MARKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 538,019, dated April 23, 1895.

Application filed December 7, 1894. Serial No. 531,115. (No model.)

To all whom it may concern:

Be it known that we, MARTIN V. B. ETHRIDGE, of Everett, and HENRY E. WAITE, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Mail-Marking Machines, of which the following is a specification.

This invention relates to machines for post-marking and stamp-canceling mail-matter, in which the mail-pieces are stacked automatically as fast as they are marked.

The stacking of the marked pieces is an important item in machines of this kind, and there are certain essentials to the successful operation of a stacking mechanism which may be enumerated as follows: Stacking of the mail-pieces in the order in which they are marked must be absolutely insured, as also maintenance of the piece right-side-up and end-on. The force used to stack the letters must be applied with graduating effect, so that the displacement of the stack to receive a new piece is uniform, and not more than required. It is customary to stack the letters against a sliding back-rest, which is simply a block having sufficient weight to properly sustain the stack. Where a stacker is used which has a direct impact against the stack, the sliding back-rest will sometimes jump and move farther than desirable, by reason of the impetus it receives from the sudden stroke of the stacker. This is especially noticeable when a stack of considerable length has been accumulated. It is therefore preferable to apply the stacking force with graduating effect rather than by a direct impact. Our invention provides for such an application of force and also for the other desiderata above mentioned.

To the above ends, the invention consists in the novel constructions and combinations of parts recited in the appended claims.

The accompanying drawings illustrate an embodiment of the invention.

Figure 1 shows a top plan view of part of a mail-marking machine having our improved stacking mechanism. Fig. 2 shows a section on line 2—2 of Fig. 1. Figs. 3, 4, and 5 are views similar to Fig. 2, illustrating different positions of parts.

The letter *a* designates the horizontal table of the machine, and *b* and *c* the printing and impression cylinders. Beyond the latter and to one side of a central longitudinal line between them, the casting which forms the table is depressed, forming an inclosure *d* for the stack of letters. At the inner side of this inclosure the table forms a ledge *e* on which the letters land when they issue from between the printing and impression cylinders. A guard *f* rises from the ledge and is carried around the end of the table and along the inclosure as at *f'* to prevent the escape of a letter. Transverse slots *g* are made in the table, the ledge, the guard, and the back-wall and bottom of the inclosure, for the stacking devices, which are of the following description: They are in the form of cams having bosses *h* by which they are fastened on a shaft *h'*, and each cam comprises two sections *h²* and *h³*. The acting face of the section *h²* comprises a slightly curving portion *h⁴* extending outward from the center, and a more nearly concentric portion *h⁵* which, however, gradually increases in distance from the center and terminates in a blunt point *h⁶*. A similar blunt point *h⁷* of the section *h³* is the only part of that section which acts in stacking, and the two sections of the cam are here shown as separated by a throat *h⁸*.

The cams are continuously rotated in the operation of the machine, through connection with the driving-shaft *i*, the connections here shown comprising gears *i'* and *i²*, sprocket-wheels *j* and *j'*, and chain *j²*.

The operation is as follows, considering that a number of the letters have already been stacked against the sliding back-rest *k*: A letter, as 2, issuing from between the printing and impression cylinders lands on the ledge *e*, when the cams are wholly back of the guard *f*. (See Fig. 2.) The cams in advancing act with their faces *h⁴* against this newly arrived letter 2, and move it off the ledge so that it falls into the inclosure *d* (see Fig. 3), its lower edge lodging in the "V" formed between the faces *h⁵* of the cams and the stack 3. These faces *h⁵* of the cam push back the stack and the back-rest *k*, but their action thereagainst is graduated so that there is not a direct impact. The object of terminating the cam-se-

tion h^2 in the blunt point h^6 is to insure the descent of each letter to the bottom of the inclosure. It will be seen by reference to Fig. 4 that in the rotation of the cam this blunt end is carried past the edge of the letter, and the latter will then follow said end. The similar end of the cam-section h^3 acting against the letter presses it against the stack, and also has a tendency to move it down.

It will be seen that by the construction above described the stacking of letters in the order in which they are marked is insured, and there is no direct impact against the stack such as to cause the back-rest to move farther than desired.

To prevent the letter from falling flat when it arrives on the ledge, I arrange a guard m which is fastened to a rod m' projecting from the end-portion f' of the guard f .

As a preventive against a letter being pinched between the cams and the bottom of the inclosure d , ribs n are formed at the sides of the slots g , said ribs rounding out from the ledge downward.

What we claim as our invention is as follows:

1. In a mail-marking machine, a depressed inclosure for a stack of mail-pieces, a sliding back-rest on the bottom of said inclosure, an unbroken horizontal ledge extending along the receiving end of the inclosure and on

which the marked mail-pieces land singly, and a stacking cam rotating in a vertical plane across the ledge and into the inclosure, said cam adapted to move a mail-piece off the ledge into the inclosure and to take it against the back-rest or the previously stacked letters.

2. In a mail-marking machine, a depressed inclosure for a stack of mail-pieces, a sliding back-rest on the bottom of said inclosure, a ledge extending along the receiving end of the inclosure and on which the marked mail-pieces land singly, and a stacking cam rotating in a vertical plane across the ledge and into the inclosure, said cam having two sections, one adapted to move a mail-piece off the ledge and to act against the stack and having an end for the said mail-piece to follow in its descent into the inclosure, and the other adapted to take said piece against the back-rest or the previously stacked pieces.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 28th day of November, A. D. 1894.

MARTIN V. B. ETHRIDGE.
HENRY E. WAITE.

Witnesses:

WILLIAM QUINBY,
A. D. HARRISON.