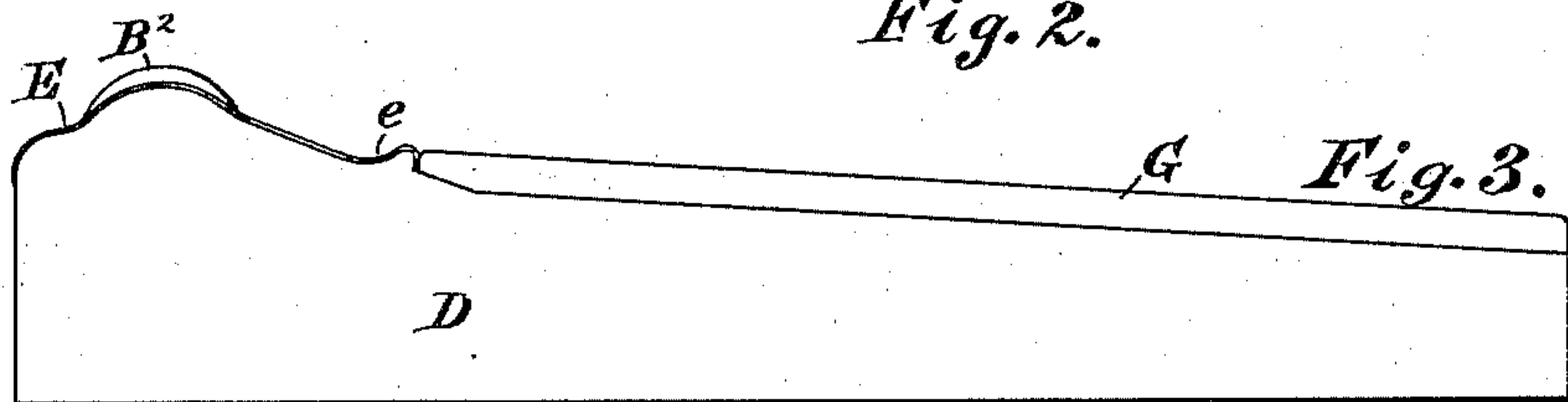
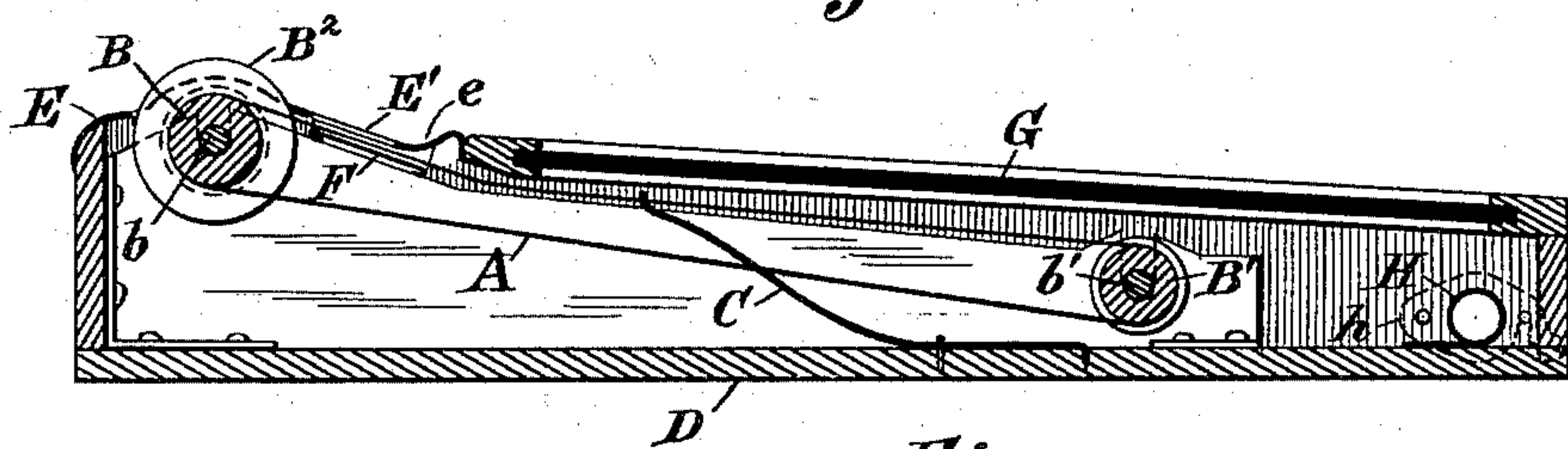
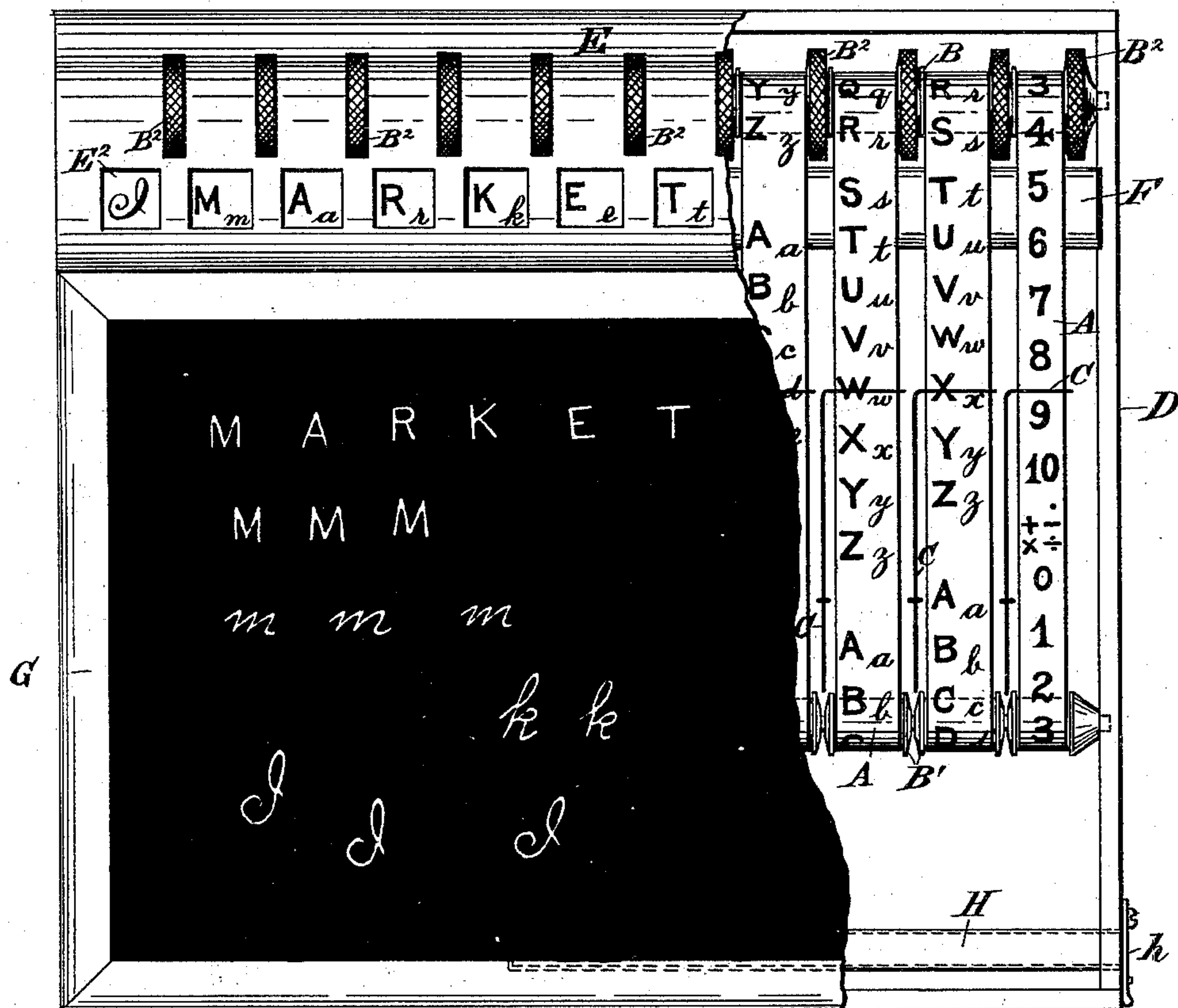


(No Model.)

M. WYMAN.
SLATE ATTACHMENT.

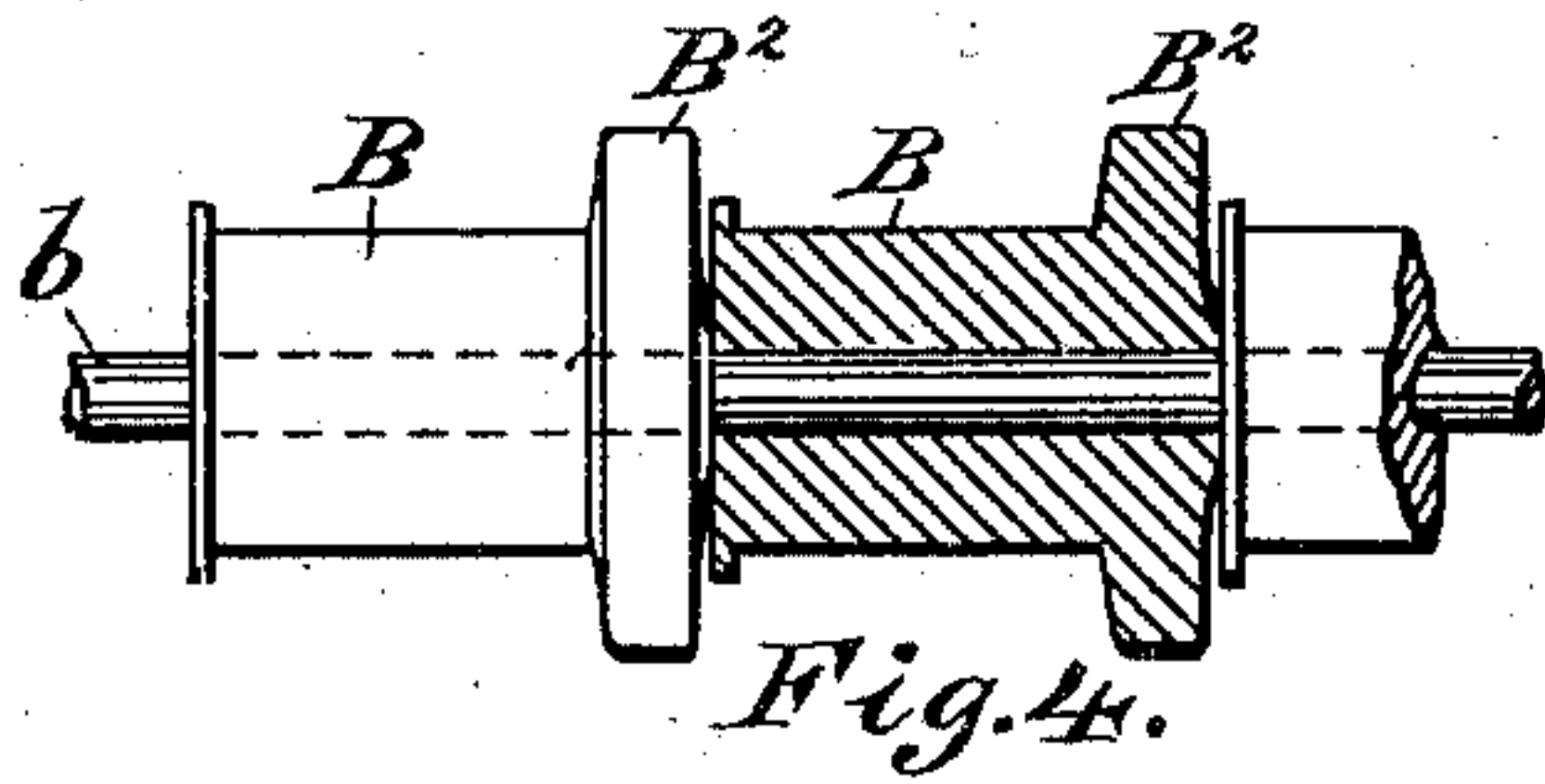
No. 488,411.

Patented Dec. 20, 1892.



Witnesses:

Geo. W. Weffinger.
Amos Taylor.



Inventor.

Hand Wyman.

UNITED STATES PATENT OFFICE.

MAUD WYMAN, OF SAN FRANCISCO, CALIFORNIA.

SLATE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 488,411, dated December 20, 1892.

Application filed April 11, 1892. Serial No. 428,642. (No model.)

To all whom it may concern:

Be it known that I, MAUD WYMAN, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Slate Attachments, of which the following is a specification.

My invention is an improvements in slate attachments, in the class of educational appliances or apparatus in which a series of endless bands or tapes are arranged on rollers or shafts, within a box having openings through which particular portions of said bands may be seen.

My invention consists in the peculiar combination and novel arrangement of parts hereinafter fully described in the specification, and particularly pointed out in the claims, reference being had to the accompanying drawings in which

Figure 1 is a plan view of my improved apparatus. Fig. 2 is a longitudinal section of the same. Fig. 3 is an end view and Fig. 4 is a detail view hereinafter referred to.

My invention lies essentially in the construction of an apparatus for the use of pupils in learning to write, or draw such letters of the alphabet, or characters as may be applied to the endless bands.

In the practical application of my invention I employ a slate (inclosed black board, or other drawing material) and lettered bands arranged to run beneath it, and under slots in its frame, and also over a portion of the latter, so that any particular character, on the belts may be brought prominently to view, a series of spools or disks mounted upon a fixed shaft are also provided, over which the bands pass and which are formed with collars, having corrugated or milled peripheral edges, which project up above the face of the slate frame, by the manipulation of any particular one of which its respective band or tape may be readily moved along for the purpose of bringing another letter, number or character to view. The slate frame is also formed with a suitably arranged pencil-receiving compartment, which will be further referred to hereinafter.

Referring to the drawings by letter, G indicates the slate, (blackboard or other drawing or writing body) which is fixed upon the

upper side of the box D, and within the latter, at its upper and at its lower end, are the spindles or shafts *b b'* respectively, which are in practice supported upon a centrally located metal support fastened to the back or bottom of the box in any convenient manner. Upon the spindles *b b'* are loosely mounted a series of band spools B B' upon which the letter and character endless bands A are mounted and around which they pass.

By reference to Fig. 4 it will be seen that the several bands, spools or rollers on the shafts are separated by the annular collars B² and the ones on the upper shaft have their peripheral edges corrugated, and such edges project at the top through long narrow slots in the cover E, whereby they may be conveniently operated by the finger. It will be understood that the rollers on one spindle are directly opposite the coincident rollers on the opposite spindle. Each set of rollers has a self regulating spring C operating upon the endless band A, whereby the tension of such band is kept uniform, in case of shrinking or stretching and whereby such bands are held in proper position.

F indicates a metal bridge-piece secured to the sides of box D and rests upon the central metal support before referred to, such bridge piece being below the tapes at the top of the slate to prevent the depression of such tapes at the place of exposure. The upper operating rollers and upper portions of the tapes are covered by a suitably shaped metal plate which is formed with the openings for the corrugated disks before referred to, and are also provided with square openings E' E² by means of and through which the tapes are exposed, such plate being formed at its lower end with a transverse concave depression *e* which serves as a convenient temporary rest or seat for the pencil when not in use. In the lower end of the box a metal case H is secured, which forms a pocket to receive one or more pencils, it being held closed by a hinged cover *h* as shown.

Having thus described my invention, what I claim and desire to secure by Letters Patent is,

1. The combination with the box D, the slate G, extending from the lower nearly to the upper edge of such box the metal plate

E extending over the upper portion of the box, and connecting the slate and the upper end of such box, said plate having a series of sight openings E' , and a series of elongated openings, arranged above and intermediate the sight openings, of the shafts $b\ b'$ journaled in the box, a series of independently journaled spools $B\ B'$ mounted on such shafts, the spools on the upper shaft b having collars B^2 projecting through the elongated slots in the plate E , a series of endless bands provided with letters &c. mounted over the said spools, and a series of tension springs C located within the box, engaging the bands, all substantially as and for the purposes described.

2. A device of the character described, consisting of a box having a cover portion formed with a slate or black board section, and a remaining cover portion having a series of sight apertures and a series of elongated openings arranged intermediate, and above the sight apertures, roller shafts journaled in the said box, a series of endless bands provided with letters, movable under the sight apertures, said bands held spaced apart and held on spools independently and loosely journaled on the said shafts, serrated disk portions formed on the upper spool sections, projecting through

the aforesaid elongated slots whereby any one of the bands can be independently moved by finger pressure, and tension devices mounted within the box engaging each separate tape, to hold it in frictional contact with its respective spools all substantially as and for the purpose described.

3. The combination with the box D , the slate G , and the plate E forming the top thereof, said plate having a series of sight apertures $E'\ E^2$, a concaved depression e at its lower edge, and a series of elongated slots, at its upper end, the central support, the shafts b and b' mounted in the sides of the box and on the said central support a series of spools B' independently journaled on the shaft b' , a series of spools B independently journaled on the shaft b , and having flanges or collars B projecting up through the elongated slots in the plate E , the endless bands provided with letters &c. mounted upon the spools $B\ B'$ and the tension springs C , all arranged substantially as and for the purpose described.

MAUD WYMAN.

Witnesses:

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