

Francois de Bowens.

Making Matches.

N^o 94,189.

Patented Aug. 31, 1869.

Fig. 1.

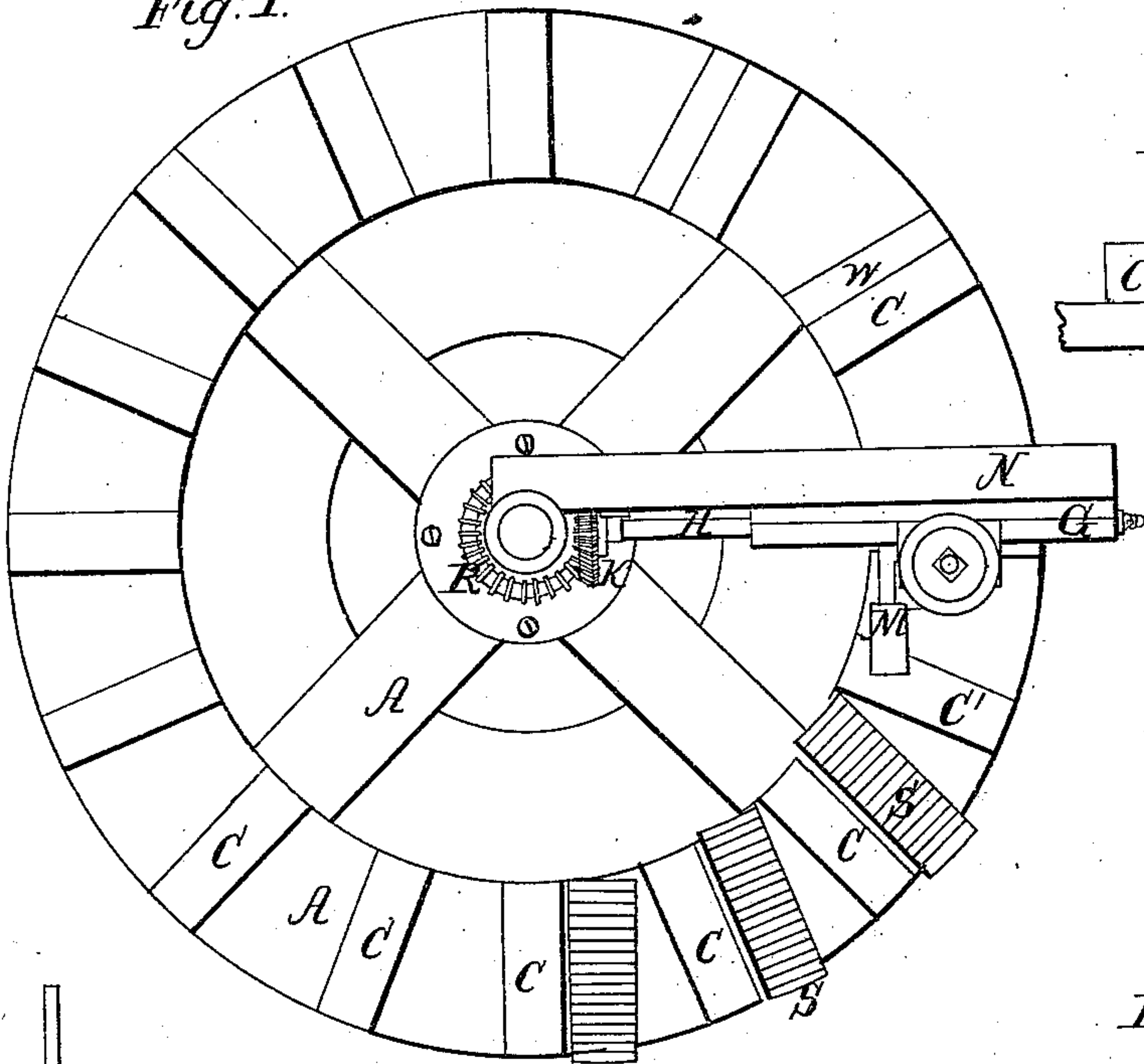


Fig. 4.

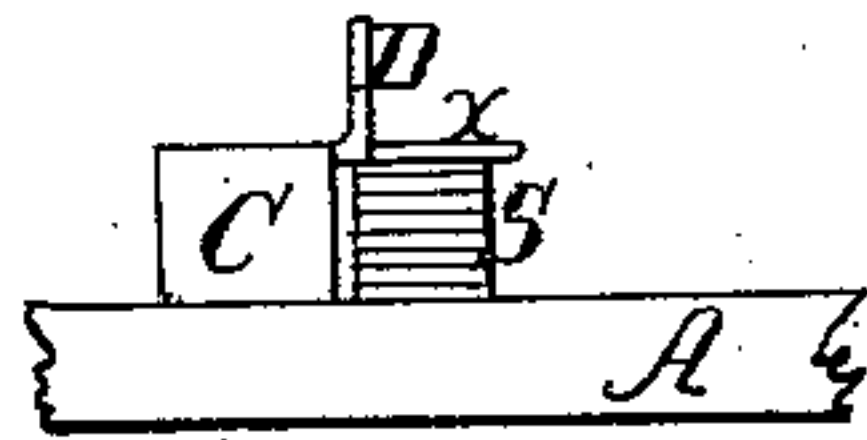


Fig. 5.

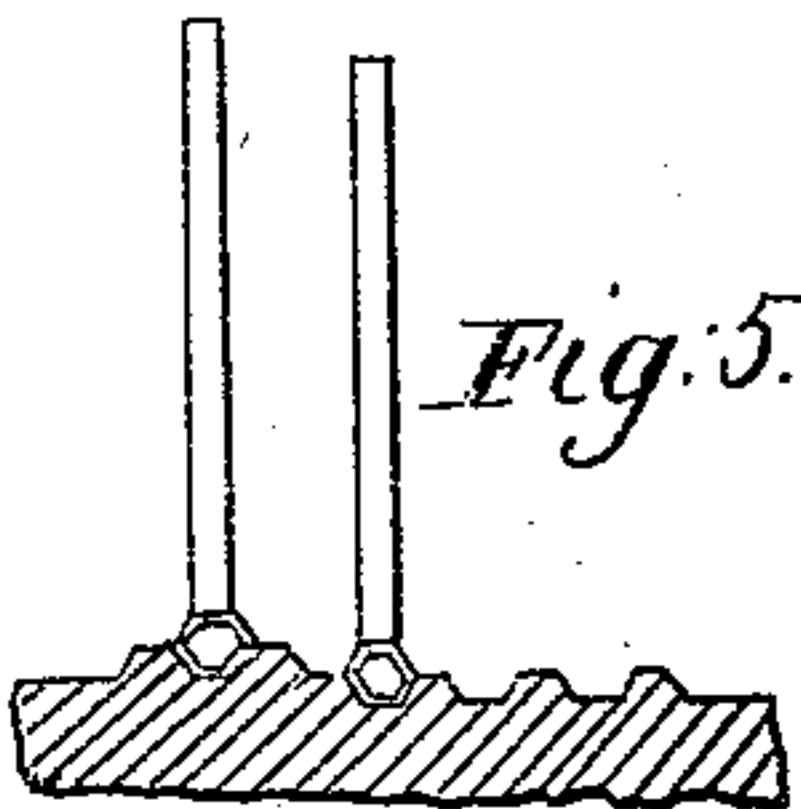


Fig. 3.

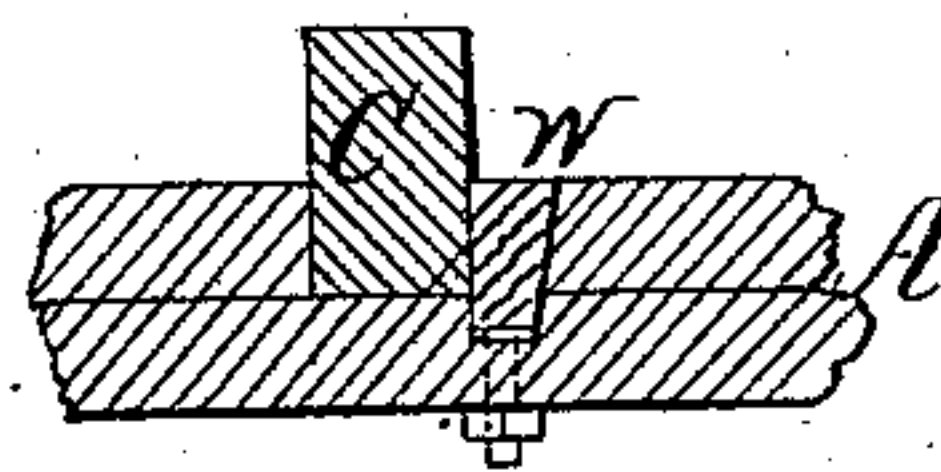
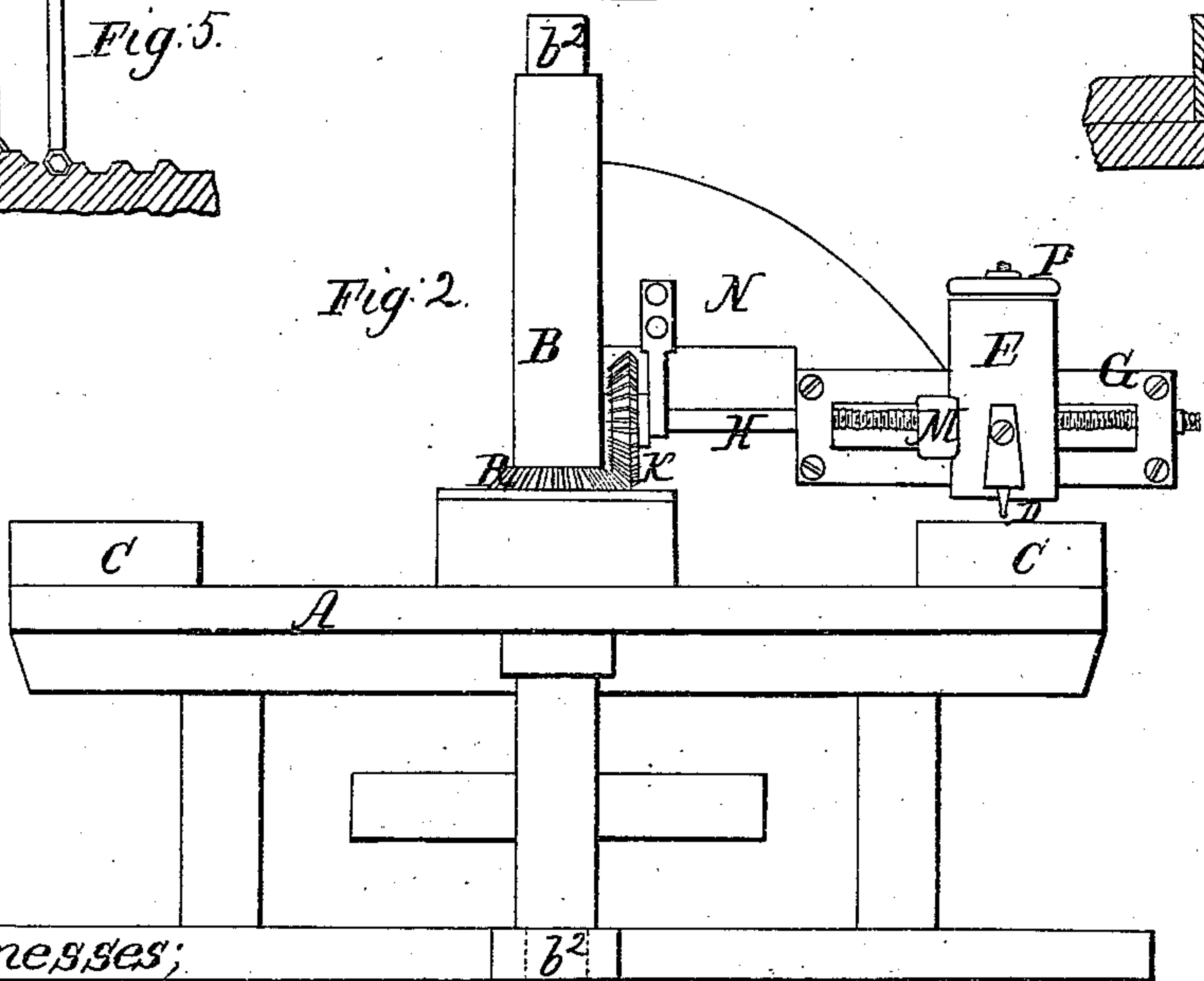


Fig. 2.



Witnesses;

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FRANÇOIS DE BOWENS, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 94,189, dated August 31, 1869.

IMPROVEMENT IN MACHINERY FOR CUTTING MATCH-STICKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, FRANÇOIS DE BOWENS, of Philadelphia, Pennsylvania, have invented certain new and useful Improvements in Machinery for Cutting Match-Sticks, and depositing them in frames; and I do hereby declare the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and the letters of reference marked thereon.

The nature of my invention consists in securing the blocks of wood from which the match-sticks are cut to a circular, horizontal wheel or table. The cutting-knife is secured to a slide-rest upon a revolving arm, and, as the sticks fall from the knives, they are deposited in the grooves in the dipping-frames, which are taken away as soon as filled.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a plan of the machine.

Figure 2 is an elevation.

Figure 3 is a section, showing one mode of securing the blocks.

Figure 4 is an end view of the frames.

A is the circular stationary table, to which are secured the splint-blocks C, either glued to the table, or to separate plates, and bolted on, or wedged into the table by a wedge, W, as shown in fig. 3.

Through the centre of this table passes the upright shaft B, turning in bearings b^2 .

A horizontal arm, N, projects on one side, carrying the slide-rest E, knife D, and bed G.

This saddle E is moved by a screw, H, which receives its motion from a bevel-wheel, K, gearing into a bevel-wheel, R, fixed upon the table A.

A weighted arm, M, having a half nut on one end, is used for bringing the saddle E into gear with the screw.

The knife is fed up to its work by wheel P.

As the arm N revolves, (the arm M being in gear,) the knife D traverses across the face of the block C, cutting out a match-stick from each block at every revolution.

The pitch of the screw is about six threads per inch, according to the size of the match-stick to be cut.

I also place two, four, or six knives in the saddle E, closely following each other, and so set that each knife cuts out the ridge left by the one preceding it, thus greatly multiplying the number of sticks cut at each revolution.

The shape of the knives D and the manner of making the cuts are fully described in my patent of April 27, 1869, in which the splint-blocks are shown as rotating, and the knives sliding on a stationary bed.

In this present application is shown a plan for depositing the sticks in frames.

The dipping-frames S are thin strips of wood, a little narrower than the splint-blocks. They are placed, one upon the other, to the height of the splint-block, and close at the side of it, as shown in fig. 4.

The knife D, having passed through the splint-block C, and cut out a match-stick, x , carries the said stick forward, until it comes in contact with the next block, C, when the stick is pushed out of the knife, and falls into its appropriate groove in the frame S.

As soon as the frames are full, they are removed, and the next row of frames underneath is filled.

Only one knife is used when the frames are being filled. If more knives were employed, an endway-motion would have to be given them at every revolution equal in proportion to the number of knives employed.

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

1. The arrangement of the splint-blocks C upon the table A, in combination with the cutting-knife D, operated substantially as herein shown and described.

2. The arrangement of the knives D D' in duplicate, one close behind the other, so that each following knife cuts out the ridge left by the preceding knife, substantially as shown, fig. 5, and described herein.

3. Depositing the match-sticks in the frames S as they leave the knives D, in the manner herein shown and described.

FRANÇOIS DE BOWENS.

Witnesses:

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