

J. SHORT.
Machines for Matching, Measuring, Singeing.
Brushing and Rolling Carpets.

No. 149,956.

Patented April 21, 1874.

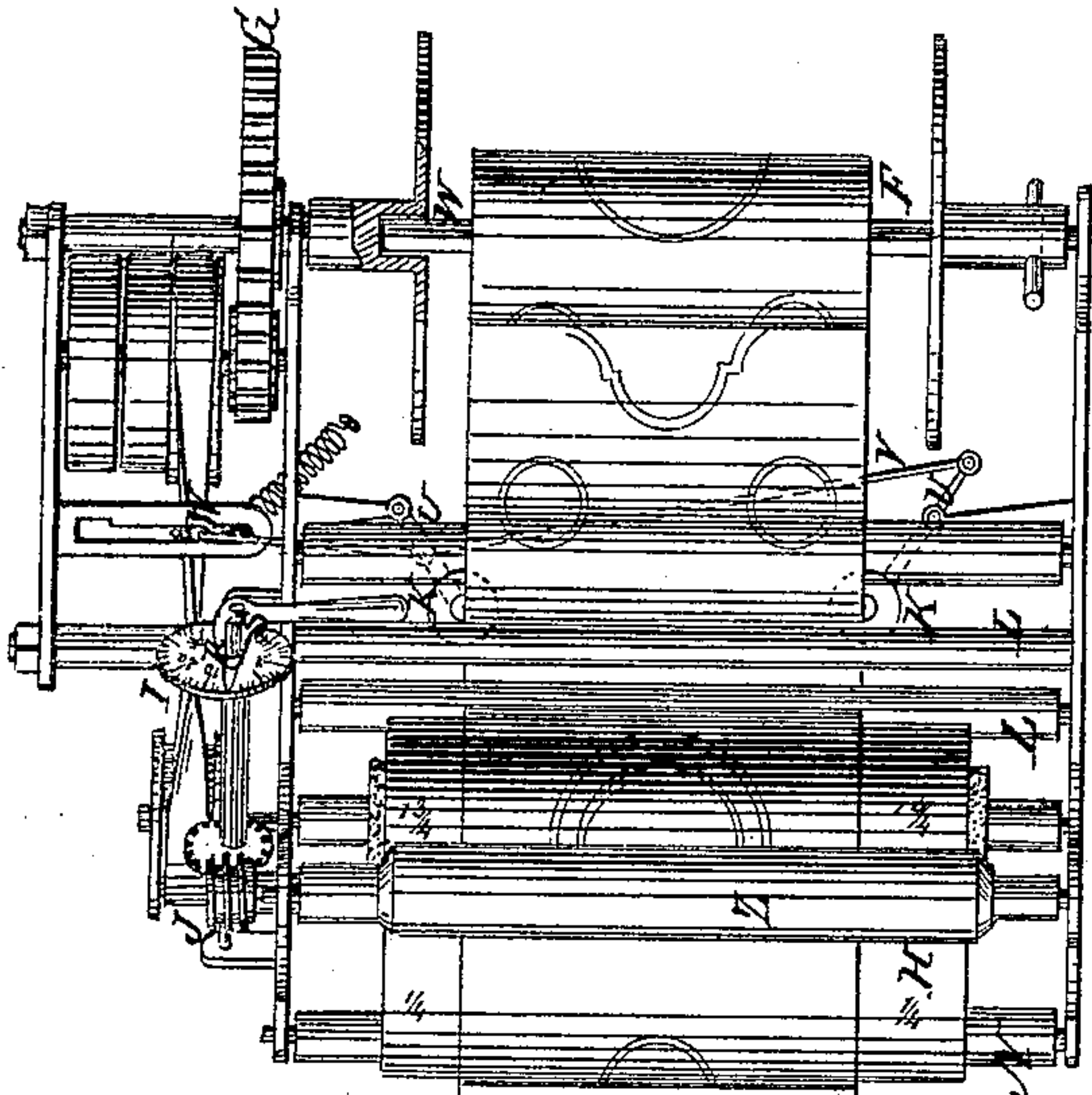
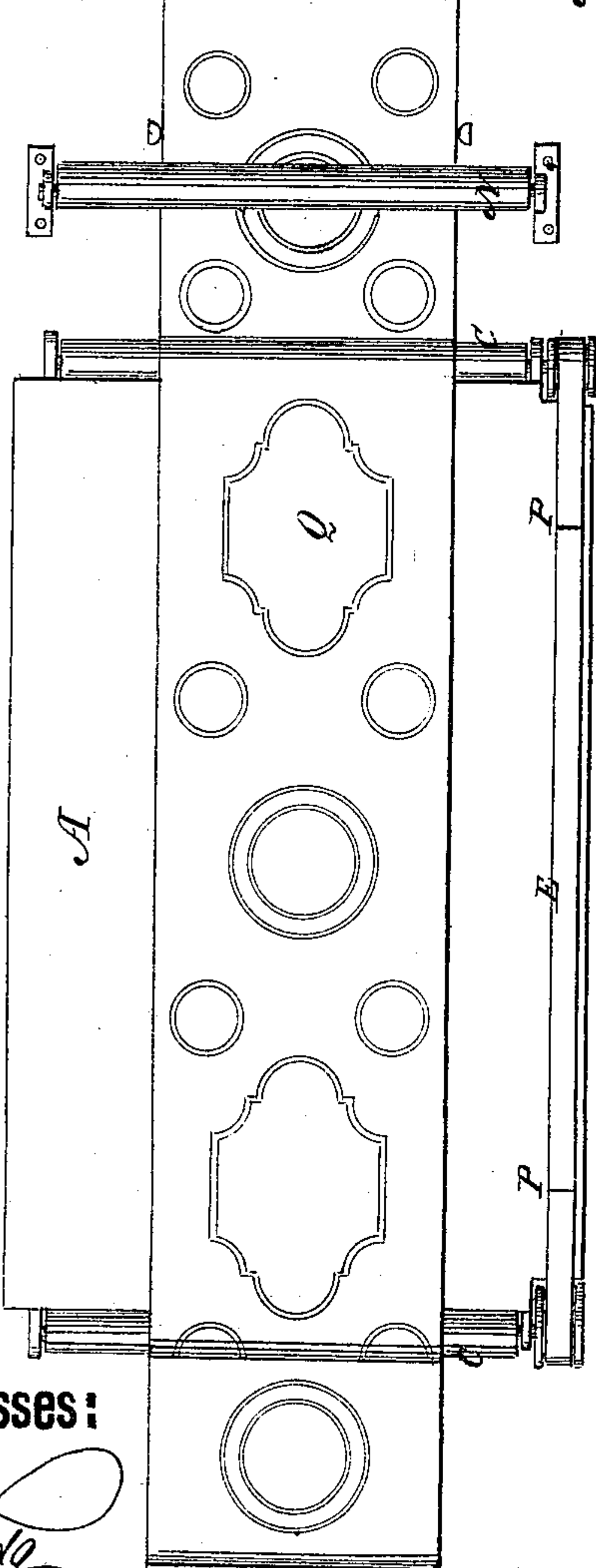


Fig. 1



Witnesses:

Chas. Nide
Sturgeon

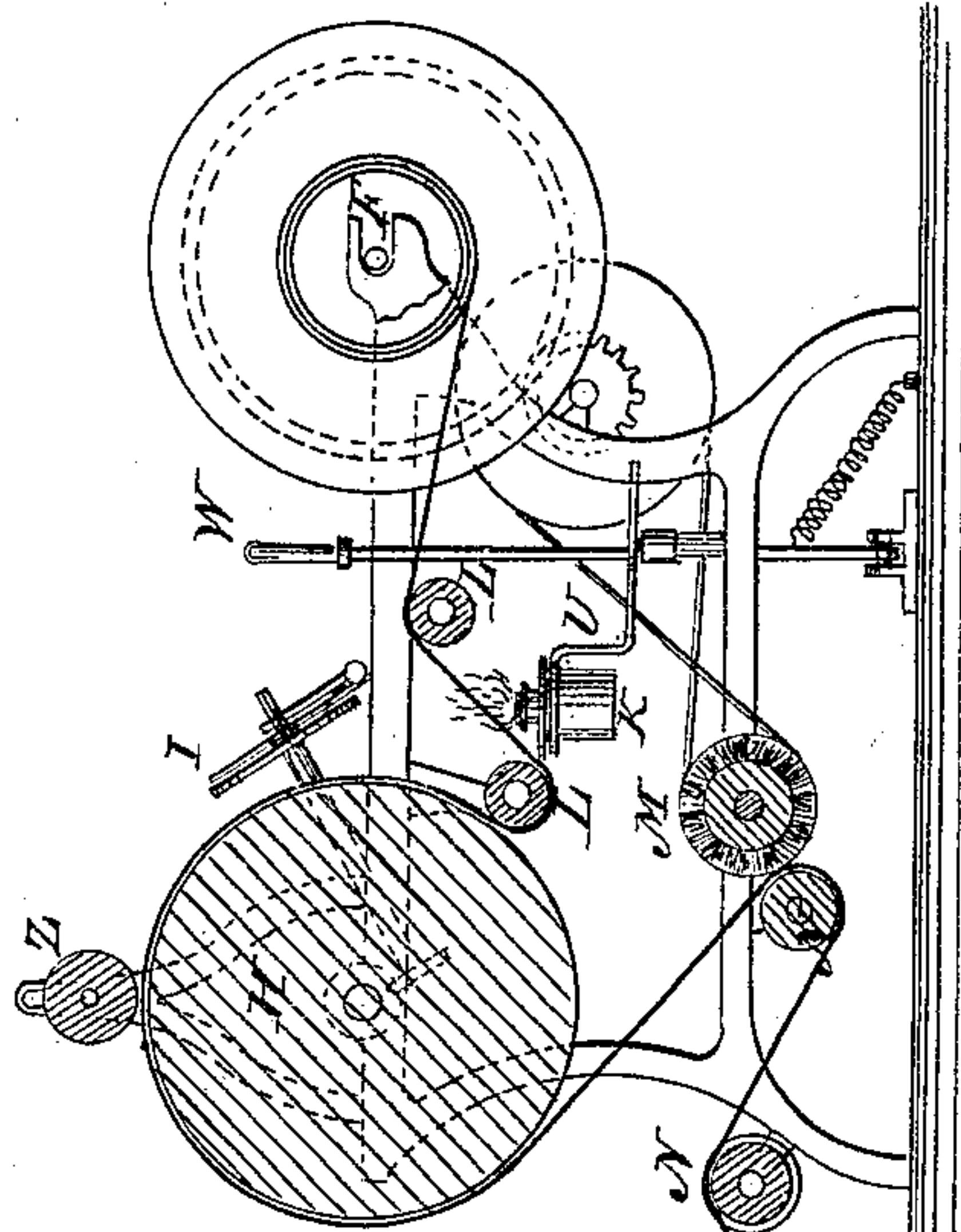
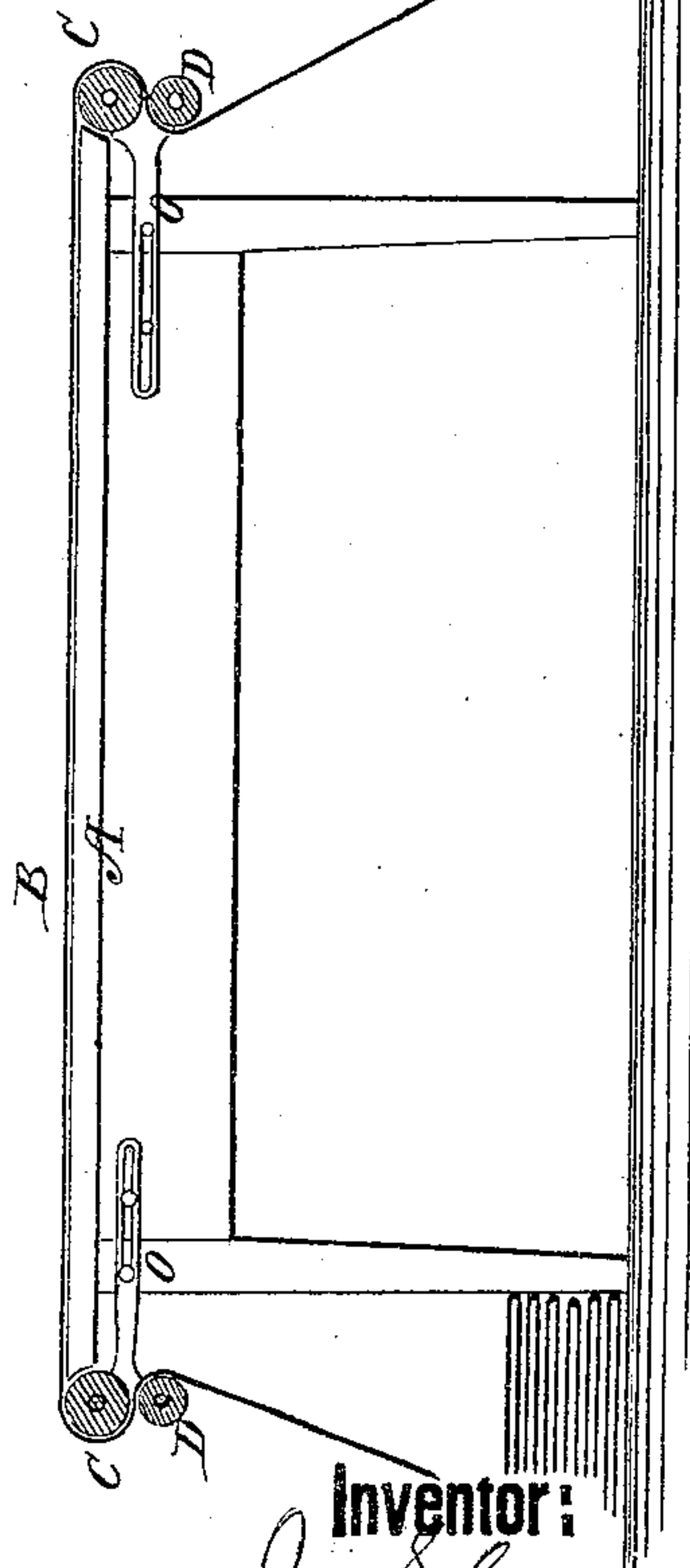


Fig. 3



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UNITED STATES PATENT OFFICE.

JAMES SHORT, OF NEW BRUNSWICK, NEW JERSEY.

IMPROVEMENT IN MACHINES FOR MATCHING, MEASURING, SINGEING, BRUSHING, AND ROLLING CARPETS.

Specification forming part of Letters Patent No. **149,956**, dated April 21, 1874; application filed January 17, 1874.

To all whom it may concern:

Be it known that I, JAMES SHORT, of New Brunswick, in the county of Middlesex and State of New Jersey, have invented a new and Improved Machine for Matching, Measuring, Singeing, Brushing, and Rolling Carpets, &c., of which the following is a specification:

The invention consists of an endless belt, with divisions of its length corresponding with the distance from center to center of the figure of the carpet or other woven goods to be matched; also mechanism in connection therewith for drawing the goods alongside of the belt in unison with its movement, and preferably over a table, by which the variation of each piece, in the distance from center to center of the figures, if any, is shown in the aggregate at the end of each piece, where it can be accurately measured with a rule, to be noted on the tag attached to the piece when rolled.

The invention also consists in combining with the mechanism employed for drawing the goods along the matching device, and operating the latter, mechanism for measuring, singeing, brushing, and rolling the goods at the same time they are matched, by which one movement of the goods answers for all these several operations.

Figure 1 is a plan view of my improved machine, and Fig. 2 is a longitudinal sectional elevation.

Similar letters of reference indicate corresponding parts.

Carpets which are woven in patterns for matching often vary in the distance from center to center of the figure from various causes, although the greatest care be taken to have them alike. The variations being sufficient to prevent some of them from matching properly, it is customary to measure each piece with a measure corresponding to the length of the figure, and note the difference, whether over or under the standard, on the tag, so that the pieces which agree in length of the figures may be put together. This operation has, up to this time, been performed by hand, in the manner of measuring goods with a yard-stick, and is, of course, very slow and laborious, the goods being stiff and heavy.

I now propose to do this work by mechanical means, and for this purpose I have, in this example, provided a bench, table, counter, or other stand or platform, A, suitable for passing the goods B along it from end to end, with a roller, C, at each end; also a friction-roller, D, to prevent the goods from slipping on rollers C; also an endless belt, E, or chain to run on rollers C at the same rate of speed that the goods move; and in connection with said table and roller mechanism, I have provided means for drawing the goods over the table and between the rollers, which may consist merely of a shaft, F, and turning gear of any kind, say G, for winding the goods up into rolls at the same time they are matched; but in order to economize time and labor, I have introduced a measuring-roller, H, and recording mechanism I J; also singeing-lamps K and carrying-rollers L, and also a brush, M, and the necessary carrying-rollers N, all so as to brush and measure the goods and singe off the projecting threads of the selvages at the same time. The rollers C I propose to mount on supports O, capable of shifting out and in, for the application of belts B of different lengths, for measuring patterns of different lengths. The belts may have one, two, or three spaces, according to length, and the length of the figure, but generally they will have three, said spaces being divided by marks P. At the beginning of the operation one of these marks is set in line with the center Q of one of the figures by adjusting one to the other; then the machine is set in motion, and the carpet drawn along with the belt, which will show whether the carpet varies or not from the standard measure by the marks always running coincident with the centers Q, if the figures agree with the marks on the belt, or overrunning or falling short of them, if they do not agree. When the last center Q comes over the table its relation to the mark P is noted and marked on the tag, and the several pieces of carpet are classified according to said marks. The rollers D are used to prevent the goods from slipping on the rollers C; the latter may be roughened or provided with points or other means for the same purpose.

The goods may, of course, be drawn through this matching-machine by hand; but as they are to be rolled at the same time it is better, as a matter of economy, to employ the mechanism for rolling them in combination with the matching apparatus, and thus effect both objects at the same time, and by the same movement of the goods; therefore I have arranged the rolling-spool F and its driving mechanism in combination with the matching mechanism, as aforesaid, to utilize it for actuating said matching mechanism, as well as for rolling the goods; and as the same lengthwise movement of the goods is necessary for measuring, brushing, and singeing the goods, I have introduced the brush M, the measuring apparatus, and the singeing-lamps between the matching and rolling apparatus, as shown, so that I accomplish these operations also in the same time and by the same power and attendance, and thus provide a machine of great value for economizing labor in carpet manufacture. The shaft of the dial I of the recording apparatus is arranged in a slotted post, R, so as to rise and fall, and a cam-lever, S, is arranged under it to raise it up to gear at J with the worm on the shaft of the roller H, when the machine is to be started after the dial has been adjusted for the start, the said adjustment being effected by dropping it down out of gear, and turning it back to the zero-point. The singeing-lamps are mounted on swinging arms U, which are connected together by a rod, V, and also connected to a hand-lever, W, by which they can be quickly swung up to the edges of the carpet, so as to burn off the projecting fibers as the carpet moves along without burning it, and also swing away whenever the machine stops, so they will not burn it while it stands.

In order to facilitate the removal of the shaft F of the rolling apparatus from the rolls, as well as the removal of the rolls of carpet from

the machine, I make it in two parts, detachably connected inside of one of the spool-heads at W, and fix the bearing for the end X so that it can be readily lifted out and put in.

In order to prevent the goods from slipping on the measuring-roll H, I employ a heavy pressure-roller, Z, above it in slotted bearings, which allow it to lie on the goods, and roll with and hold them.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the supporting-table for the cloth, of a movable belt marked to correspond with the length of the figures of the goods, and running alongside of the goods, and at the same speed, in the manner described.

2. The combination of the table or platform A, rollers C, and an endless matching-belt, E, substantially as specified.

3. The combination of rolling mechanism F G with the matching mechanism, substantially as specified.

4. The combination of measuring apparatus H I J with the rolling mechanism and matching mechanism, substantially as specified.

5. The combination of the singeing mechanism with the rolling mechanism and matching mechanism, substantially as specified.

6. The combination of the brushing mechanism with the matching mechanism and the rolling mechanism.

7. The arrangement of the dial-shaft, slotted support R, and cam-lever S, substantially as specified.

8. The arrangement of the singeing-lamps K, swinging levers U, connecting-rod V, and handle W, substantially as specified.

JAMES SHORT.

Witnesses:

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