S. COHN.

METHOD OF CUTTING BLANKS.

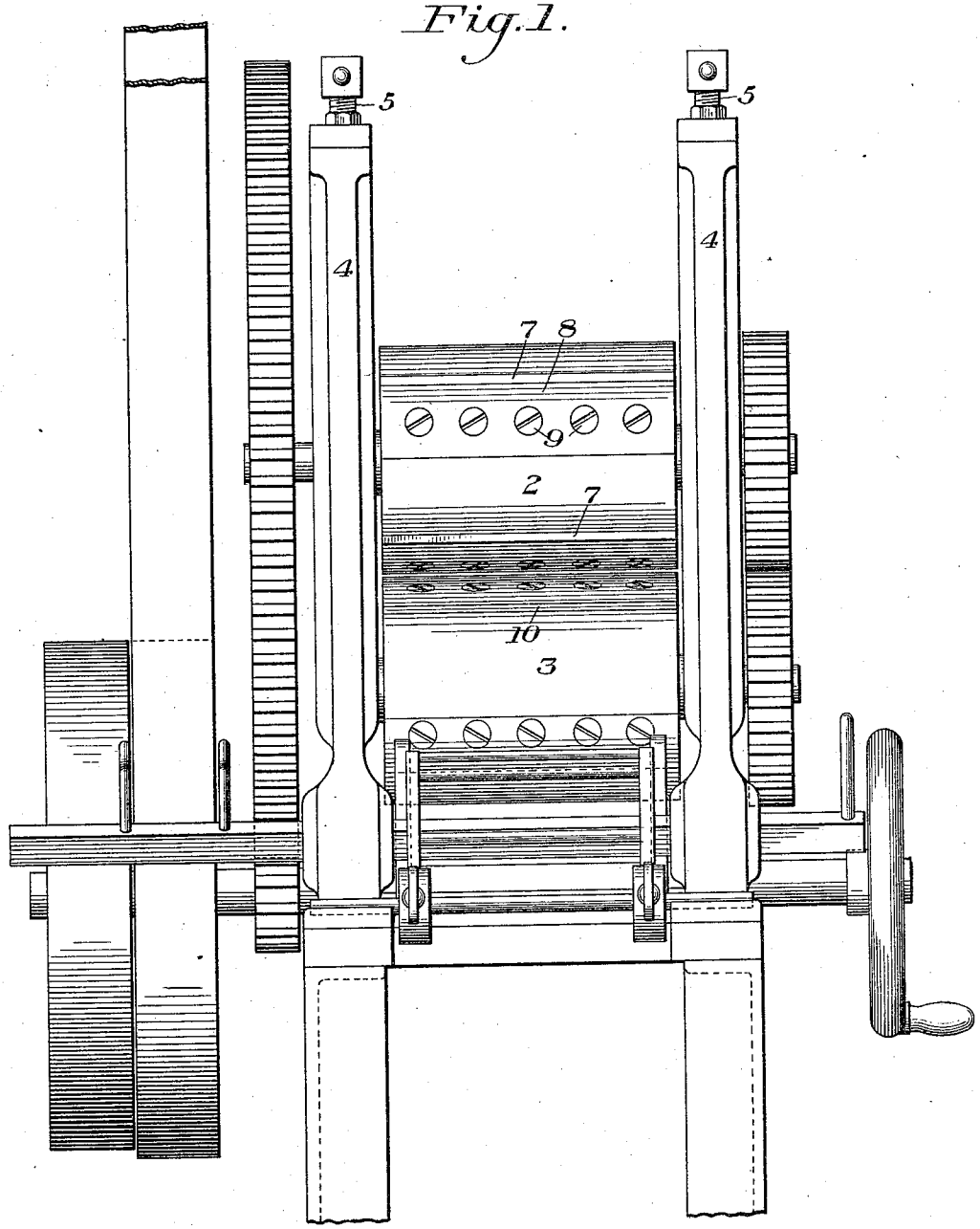
APPLICATION FILED MAR. 22, 1912.

1,184,076.

Patented May 23, 1916.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

O. J. Paschall

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by

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INVENTOR

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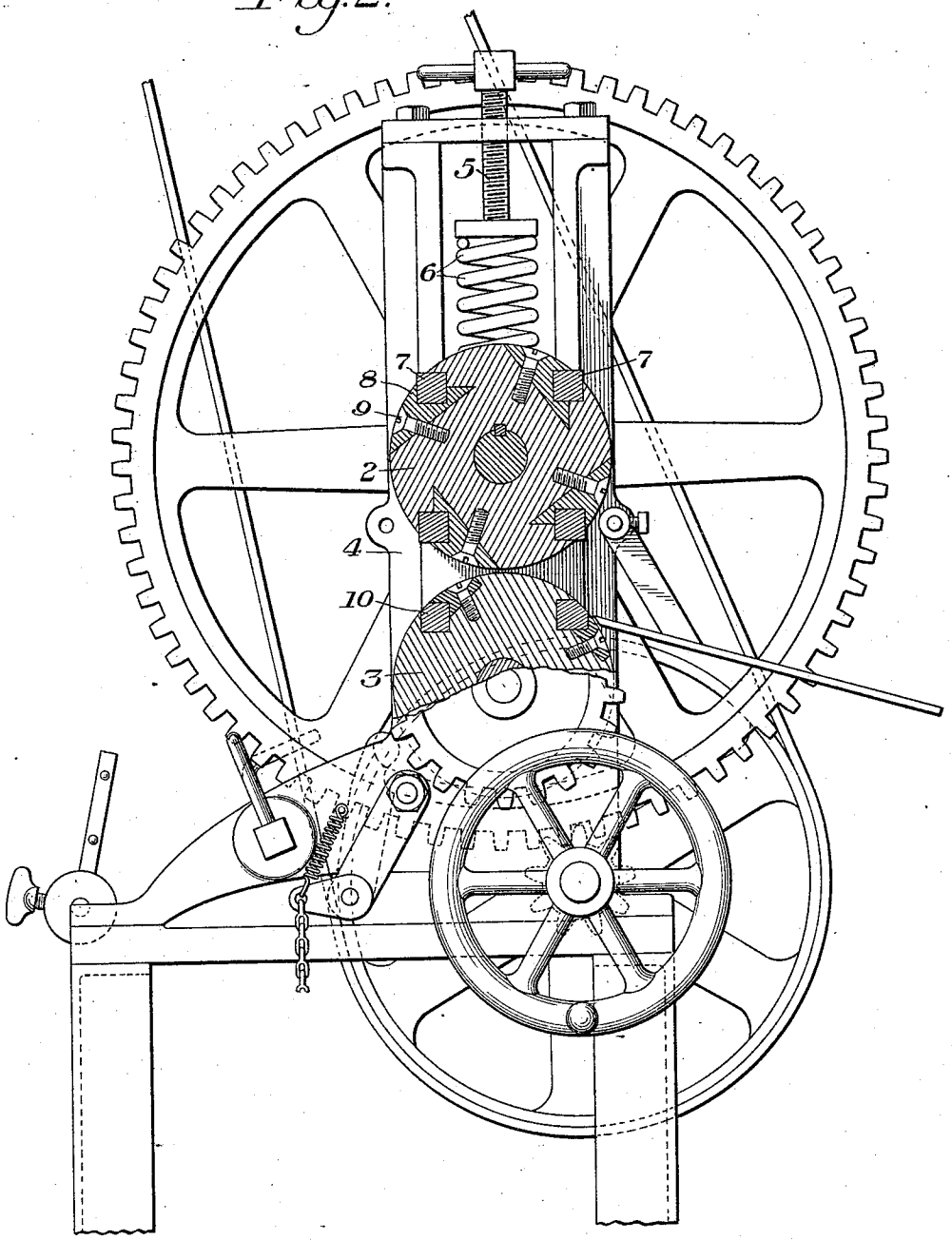
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2 SHEETS—SHEET 2.

Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

SAMUEL COHN, OF NEW YORK, N. Y., ASSIGNOR TO MANTLE MACHINERY & PATENTS COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

METHOD OF CUTTING BLANKS.

1,184,076. Specification of Letters Patent. Patented May 23, 1916.

Application filed March 22, 1912. Serial No. 685,558.

To all whom it may concern:

Be it known that I, SAMUEL COHN, a resident of New York city, in the county and State of New York, have invented a new and useful Method of Cutting Blanks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a rear elevation of my improved machine, and Fig. 2 is a vertical cross section of the same.

Heretofore so far as I am aware in the cutting of continuous mantle blanks, this transverse cutting has either been done by a guillotine cutter or by hand. In either case, the blanks are liable to be of unequal weights, and consequently the mantles are not regular in weight and form.

My invention is designed to make the blanks of more even weight and reduce the difficulties of distortion thereof during burning. To that end, it consists in subjecting an unstretched tubular web to compression during its forward feed while cutting the blanks by transverse knives under compression. In the preferred form this is accomplished by providing pressure rolls which act to feed the web forwardly and providing these rolls with coacting transverse knives, which cut the fabric while under compression.

In the drawings 2 and 3 represent metal rollers mounted in suitable bearings in side standards 4—4. The bearing of the upper roller is adjustable and the pressure between the rolls may be adjusted by screws 5—5 bearing on springs 6, pressing on the tops of the bearing boxes. The metal bodies of these rolls are recessed to receive the knives and knife bars. In the form shown, each knife consists of a square bar 7 held by a clamping plate 8 secured by screws 9. I show four of these knives with their cutting corners projecting from the roll at equal distances apart, these knives coacting with corresponding anvil bars 10, which are clamped in the lower roller. In the use of the apparatus, the tubular impregnating mantle web is fed in between the rollers which are adjusted to give the desired degree of pressure. As these rollers revolve, they carry the web forwardly, slightly compressing it, and in each partial revolution a blank is cut off by the transverse coacting knives and anvil bars. It will be noted that by having knives coacting with anvil blocks, as distinguished from coöperating knives, the action is in the nature of a chopper, instead of on the principle of shears, and this is effective for the particular purposes for which the present machine is designed, in that it avoids the drawing of the threads during the cutting action and the consequent distortion of the completed mantle. The rotation in cutting is continuous until the end of the web is reached, when another web is inserted.

The amount of pressure exerted on the blank may be adjusted as desired and actual use of the machine has shown that distortion in burning of the mantles is greatly reduced by this method of cutting. This is due, I believe, by the compressing of the material in cutting, thus giving blanks of much more weight than formerly and also tending to give the same number of stitches on one side of the blank as on the other side. These webs are often so drawn or stretched in drying that the stitches on one side are not even with those along the other side; and I have found that this method for compressing and cutting an unstretched tube is of great aid in avoiding distortion and warping of the blank during burning.

One of the most important features of my invention lies in the fact that the cutting is done while the fabric is in motion. In the old types of machines for cutting such tubular fabrics, the fabric is stopped when the cutting is done, thus resulting in uneven lengths. In other cases, the tube or fabric is passed over folders or stretching devices before it is engaged by the rollers, while by my method the fabric passes to the rollers unstretched. In my case, the fabric moves continuously during the cutting and the cutting may be carried out by knives either on the pair of compressing rollers or on another pair of rollers adjacent thereto. In such case the one pair of rollers would be only plain compressing rollers and the knives would be on a second pair of rollers. In this way the lengths could be changed by adjusting different gears on the first pair of rollers and the speed of the second pair of rollers could be correspondingly changed, this second pair

having only one pair of knives. This would avoid the necessity of changing rollers.

I claim:

In the method of manufacturing mantles, the steps of feeding and compressing an unstretched tubular web to flatten the tube and bring one wall thereof against the other, and transversely severing the tube into mantle blanks while under compression to prevent variation in the blanks due to such severance and consequent distortion.

In testimony whereof, I have hereunto set my hand.

SAMUEL COHN.

Witnesses:
CHAS. GLAS,
ALEX. HOLMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."