S. COHN.

MACHINE FOR CUTTING MANTLE BLANKS.

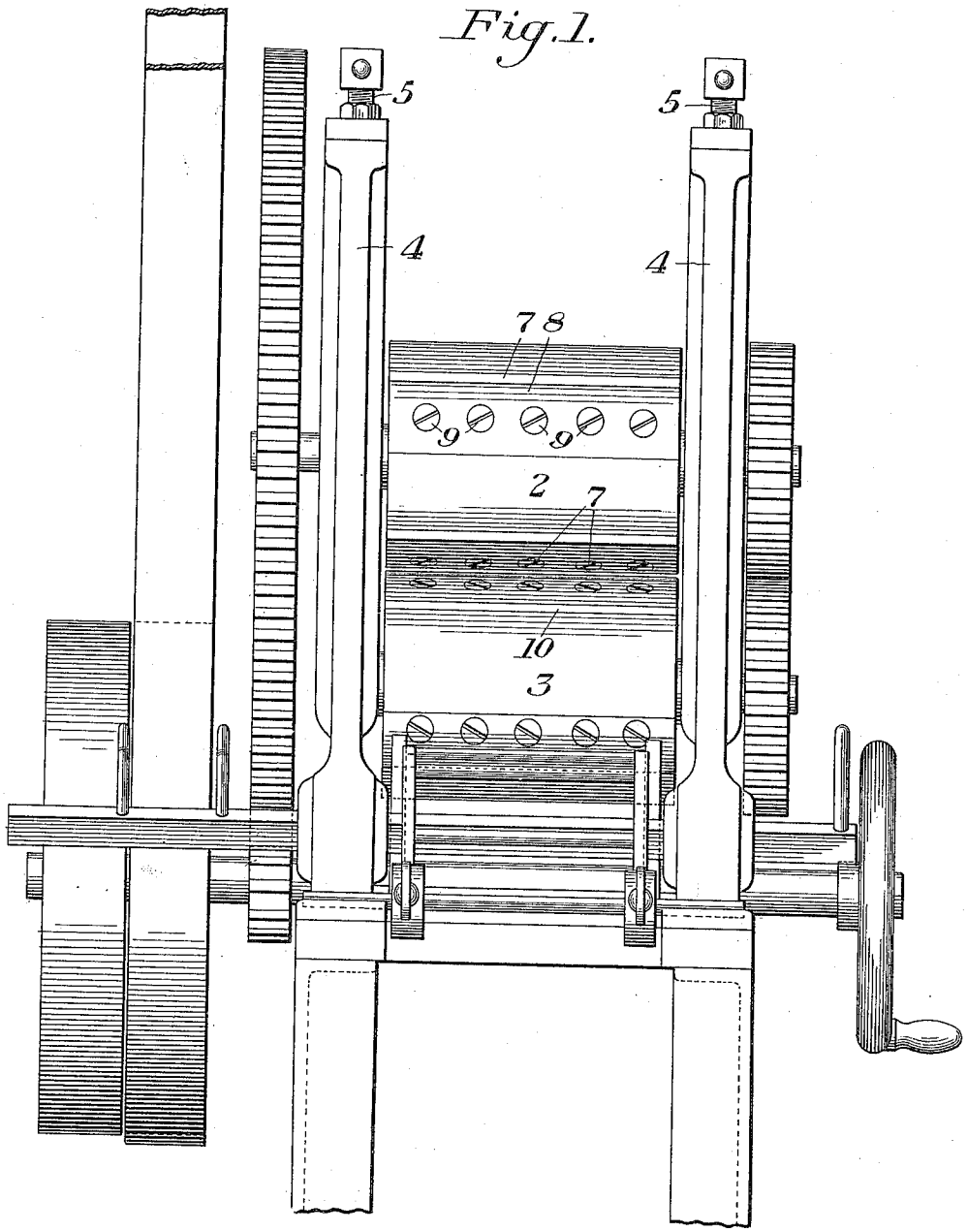
APPLICATION FILED JAN. 17, 1914.

1,158,180.

Patented Oct. 26, 1915.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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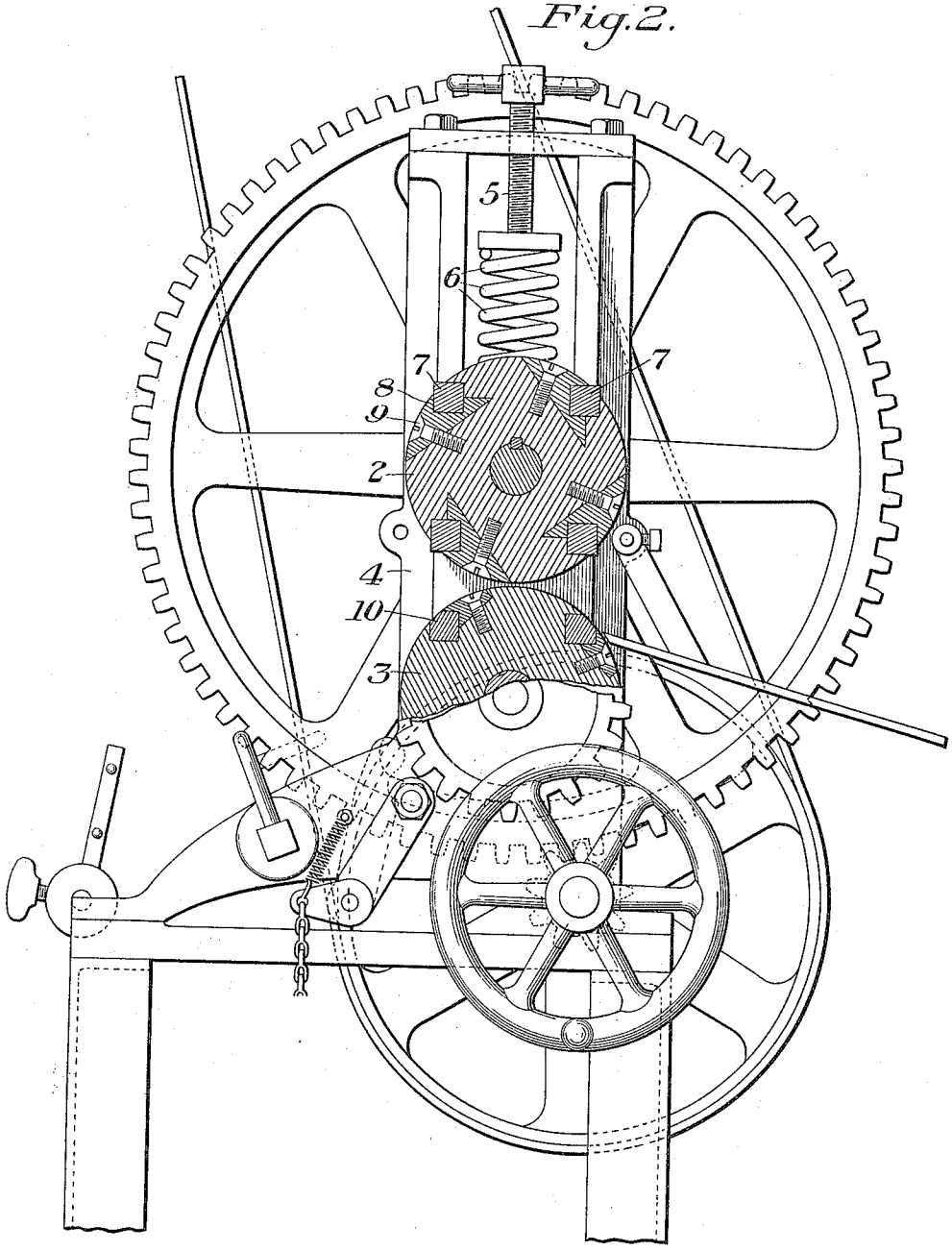
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2 SHEETS—SHEET 2.

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.

MACHINE FOR CUTTING MANTLE-BLANKS.

1,158,180. Specification of Letters Patent. Patented Oct. 26, 1915.

Original application filed March 22, 1912, Serial No. 685,558. Divided and this application filed January 17, 1914. Serial No. 812,720.

To all whom it may concern:

Be it known that I, SAMUEL COHN, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented a new and useful Machine for Cutting Mantle-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 the 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 knife 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 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 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 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.

This application is a division of my ap-

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

I claim:

1. In cutting apparatus of the character set forth, the combination with coacting rolls, one of the rolls having a recess, a cutting member in the recess having an interlocking engagement with one wall thereof, and a holding device in the recess, said cutting member also having an interlocking engagement with the holding device between the outer and inner sides of the latter.

2. In cutting apparatus of the character set forth, the combination with coacting rolls, one of the rolls having a recess, one wall of which is provided with an angular socket arranged above the bottom of the recess, an angular cutting member in the recess having a corner engaged in the socket, and a holding device in the recess having an angular socket between its outer and inner sides that receives the opposite corner of the cutting member.

3. In cutting apparatus of the character set forth, the combination with coacting rolls, each having longitudinally disposed recesses in its periphery, of holding devices detachably secured in said recesses and having portions spaced apart from certain of the side walls thereof, said portions and said walls having oppositely extending angular undercut portions, forming sockets that are substantially quadrangular in cross section, and cutting elements substantially quadrangular in cross section located in said sockets and having their corners fitted into the undercut portions.

4. In cutting apparatus of the character set forth, the combination with a pair of coacting rolls having coacting cutting elements, of means for yieldingly urging the rolls toward each other, said rolls being held in spaced relation during their entire rotation.

In testimony whereof, I have hereunto set my hand.

SAMUEL COHN.

Witnesses:

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