H. GUTTRIDGE.

CLOTH HANDLING MEANS FOR SPONGING AND SHRINKING MACHINES.

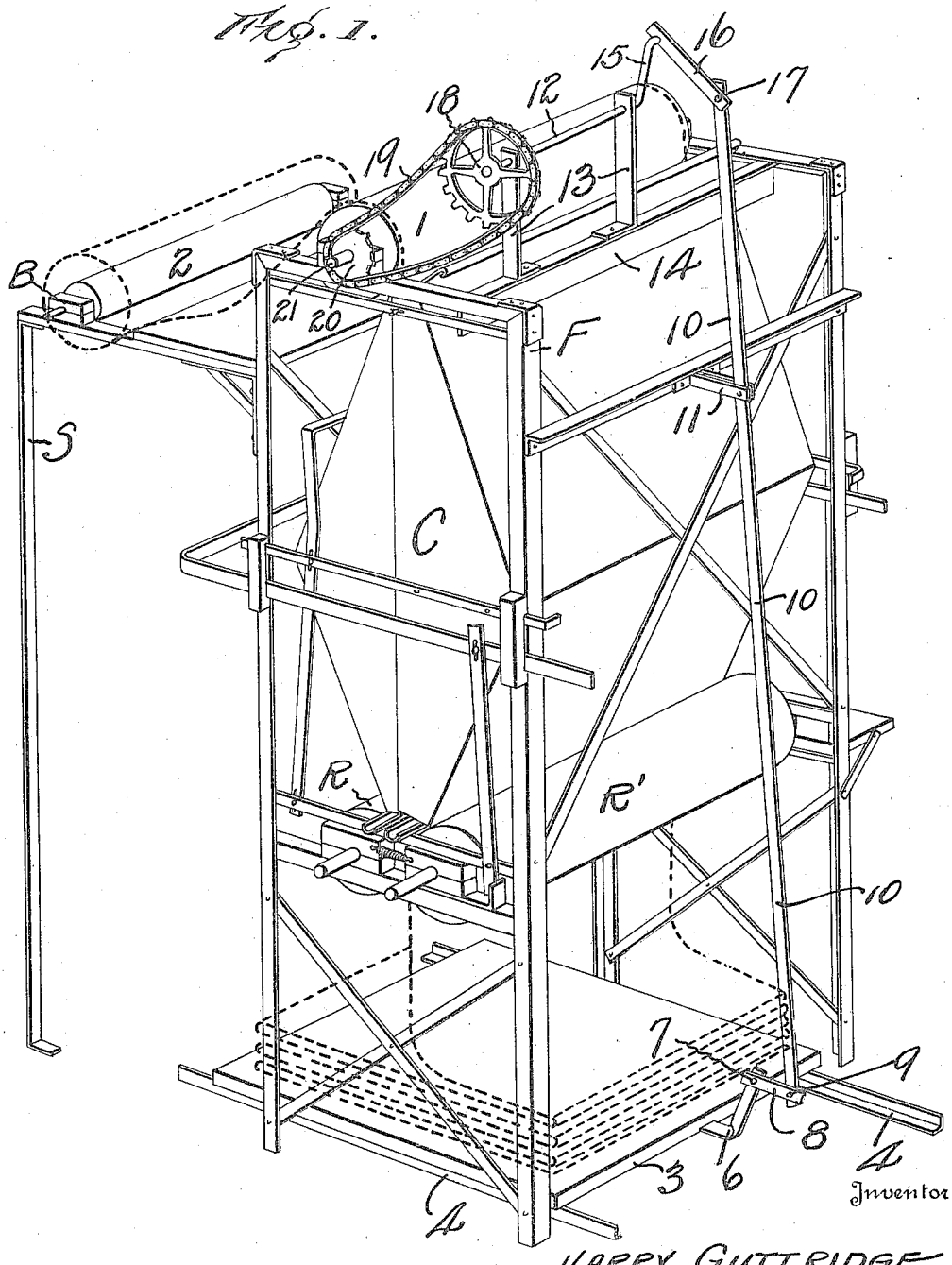
APPLICATION FILED MAY 25, 1917.

1,263,885.

Patented Apr. 23, 1918.

2 SHEETS—SHEET 1.

Fig. 1.



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Fig. 3.

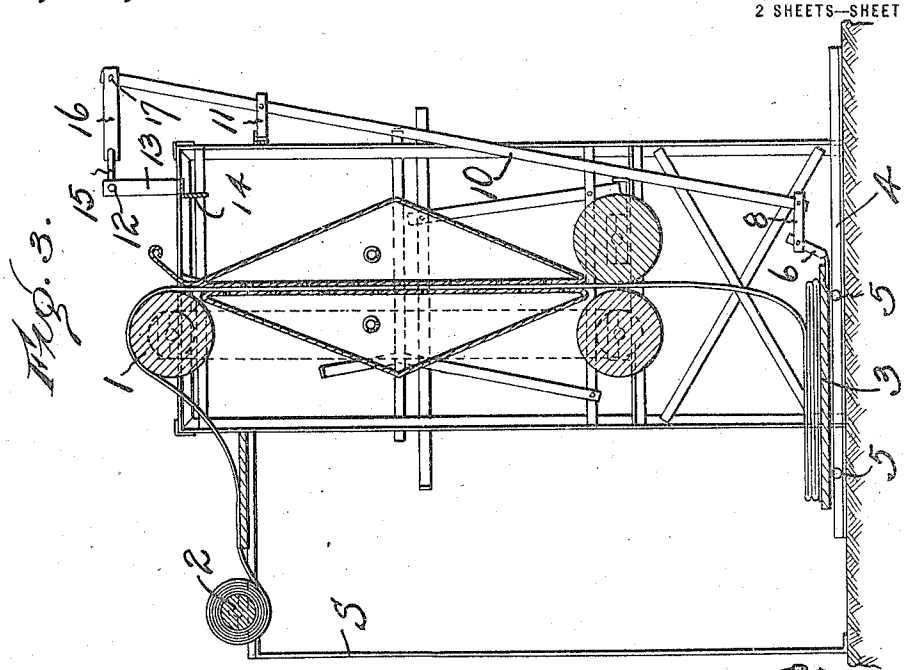
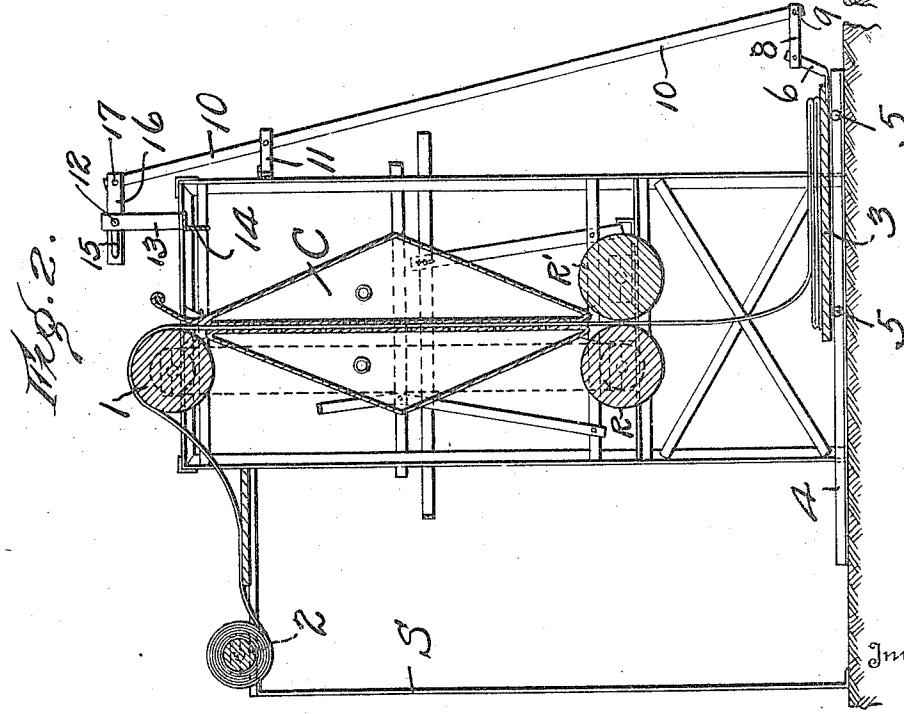


Fig. 2.



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UNITED STATES PATENT OFFICE.

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CLOTH-HANDLING MEANS FOR SPONGING AND SHRINKING MACHINES.

1,263,885. Specification of Letters Patent. Patented Apr. 23, 1918.

Application filed May 25, 1917. Serial No. 170,996.

To all whom it may concern:

Be it known that I, HARRY GUTTRIDGE, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Cloth-Handling Means for Sponging and Shrinking Machines, of which the following is a specification.

This invention relates to an improvement in cloth sponging and shrinking machines to facilitate the handling of the cloth within the machine, and more particularly to provide for neatly and compactly folding the goods after the sponging operation.

In carrying forward this general object, the present invention contemplates novel and reliable means for automatically and evenly folding the cloth as it is delivered from the sponging instrumentalities without manual assistance, and far more expeditiously than in machines of this general type wherein the cloth must be handled manually after being subjected to the treatment within the machine.

A further object of the invention is to provide a novel arrangement of instruments whereby the folding means may be operated in conjunction with that portion of the apparatus which guides the cloth to the sponging elements, so that there will be proper synchronism between the operations of feeding and folding, thereby materially contributing to the accuracy and uniformity of the folding operation.

A further object of the invention is to provide simple, practical, and reliable means which is especially adapted for use in connection with the type of sponging and shrinking machine disclosed in my former Patent No. 1,218,646 dated March 13, 1917.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

The preferred and practical embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 is a perspective view of the type of machine set forth in my patent aforesaid, showing the application of my novel folding apparatus thereto.

Fig. 2 is a vertical sectional view of the construction shown in Fig. 1 showing one extreme limit of movement of the folding means.

Fig. 3 is a view similar to Fig. 2 showing the relative position of parts at the other end of the folding structure.

Similar references designate corresponding parts throughout the several figures of the drawings.

Although the present invention is susceptible of embodiment in different structural forms whereby it may be utilized in connection with various types of machines, it is preferred, as previously indicated, to employ the same in connection with the type of machine shown in my former patent. Accordingly, for the purpose of illustration, Fig. 1 of the drawings shows a machine having the general structural features and arrangement of my patented device, which embodies in its organization a suitable frame-work designated generally as F for supporting the moisture chest C, through which chest the cloth passes for treatment with the necessary moisture to effect the desired sponging and shrinking.

Adjacent the lower or delivery end of the moisture chest C there are suitably mounted a pair of feed rollers R—R′, one of which rollers may be utilized as the main driving element of the machine, and for that purpose may be connected with a motor or other source of power. In an opposite location, that is adjacent the upper or receiving end of the moisture chest C there is arranged a single cloth guide-roller 1, which, to a certain extent, also assists in the feeding of the cloth into the chest, since it is driven by and at the same speed as the feed roller R, as will be clear from Figs. 2 and 3 and my former patent.

At one side of the main frame F of the apparatus, there is preferably arranged an auxiliary reel supporting frame S which is provided with suitable bearings B for receiving the reel 2 on which the supply of cloth to be treated is carried. With this arrangement it will be apparent that cloth may be drawn from the said reel 2 over the guide-roller 1, and thence through the moisture chest C to the feeding rollers R—R′ which will draw it through the chest and deliver the same on to the reciprocating cloth folding table 3 located in the lower part of the main frame F.

Referring particularly to the said cloth

folding table 3, on which the cloth is evenly folded as it passes from the sponging chest C, it will be observed from the several figures of the drawings, that the same is slidably mounted on the brackets or rails 4 by means of suitable rollers 5, whereby it may have a free reciprocating movement beneath the delivery end of the sponging or moisture chest. Suitable operating mechanism is provided for reciprocating the table 3. This operating mechanism is susceptible of modification, but the preferable means shown in the drawings includes an angular bracket 6 fitted to one end of the table, the upper end of which is pivotally connected as indicated at 7 with a link 8, which latter in turn is pivotally connected as indicated at 9 with one end of the main operating lever 10. This main operating lever 10 is relatively long, and is fulcrumed at an intermediate point to an offset pivot bracket 11 carried by the main frame work F of the apparatus.

The said operating lever 10 is actuated or rocked on its pivot in the bracket 11 by suitable operating instrumentalities connected with its upper end. That is to say, in order to impart the desired reciprocating movement to the cloth folding table 3, this main operating lever 10 is rocked by means suitably connected with the guide roller 1 which is driven with the feed rollers R.

As will be observed from Fig. 1 this operating means for the lever 10 preferably consists of a crank-shaft 12 journaled in suitable upstanding standards 13 carried by the transverse frame member 14, and having at one end thereof the crank 15 which pivotally connects with one end of a link 16, the opposite end of which latter is joined as at 17 with the main operating lever 10. The end of the crank-shaft 12 opposite the crank 15 carries a sprocket wheel 18 which is connected by means of a chain 19, with a driving pinion 20 mounted on the shaft 21 of the roller 1 which is driven in conjunction with the feed roller R.

From the foregoing it will be apparent that as the roller 1 at the entrance end of the chest C revolves, the pinion 20 will be rotated and thus drive the chain 19 which will actuate the crank-shaft 12 through the gear 18. The rotation of the crank-shaft 12 will obviously impart a rocking motion to the main operating lever 10, whereby the cloth folding table 3 will be reciprocated thereon in the even and regular folds shown. Furthermore, as previously pointed out since the means for reciprocating the table is connected with the roller 1 that is operated in conjunction with the feed rollers R—R′, the feeding and folding operations are synchronized whereby accuracy and uniformity is readily obtained in the folding of the goods treated in the moisture or sponging chest C.

Without further description, it is thought that the features and advantages of the present invention will be readily apparent, and it will of course be understood, that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A folding mechanism for cloth sponging machines having a vertical delivery passage, including a sliding table arranged beneath said passage, a driven feed roller, a pinion thereon, and means for actuating said table consisting of a crank shaft having a sprocket and chain connection with said pinion, and a lever pivotally supported at an intermediate point and having link connections at each end respectively with the crank shaft and said table.

2. A folding mechanism for cloth sponging machines including in combination with the machine frame, a driven roller mounted at the top of the frame, a pinion carried thereby, a crank shaft journaled adjacent said roller and having a sprocket and chain connection with said pinion, a folding table slidably mounted in the lower part of said frame, a relatively long lever pivoted at an intermediate point to the frame, a link connecting the upper end of the lever with said crank shaft, a bracket carried by the table and a link pivotally connecting the lower end of the lever with the said bracket on the table.

3. In a folding mechanism for sponging machines, the combination with the frame of said machine, of an auxiliary frame mounted at one side of the latter, a cloth supply reel mounted on said auxiliary frame, a driven cloth guiding roller located at one side of the supply roller and adapted to direct the cloth downwardly, a reciprocating cloth feeding table arranged beneath the said guide roller, and means operated by said roller for reciprocating the table synchronously therewith.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HARRY GUTTRIDGE.

Witnesses:
C. C. RUDIBAUGH,
H. MEEKS.

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