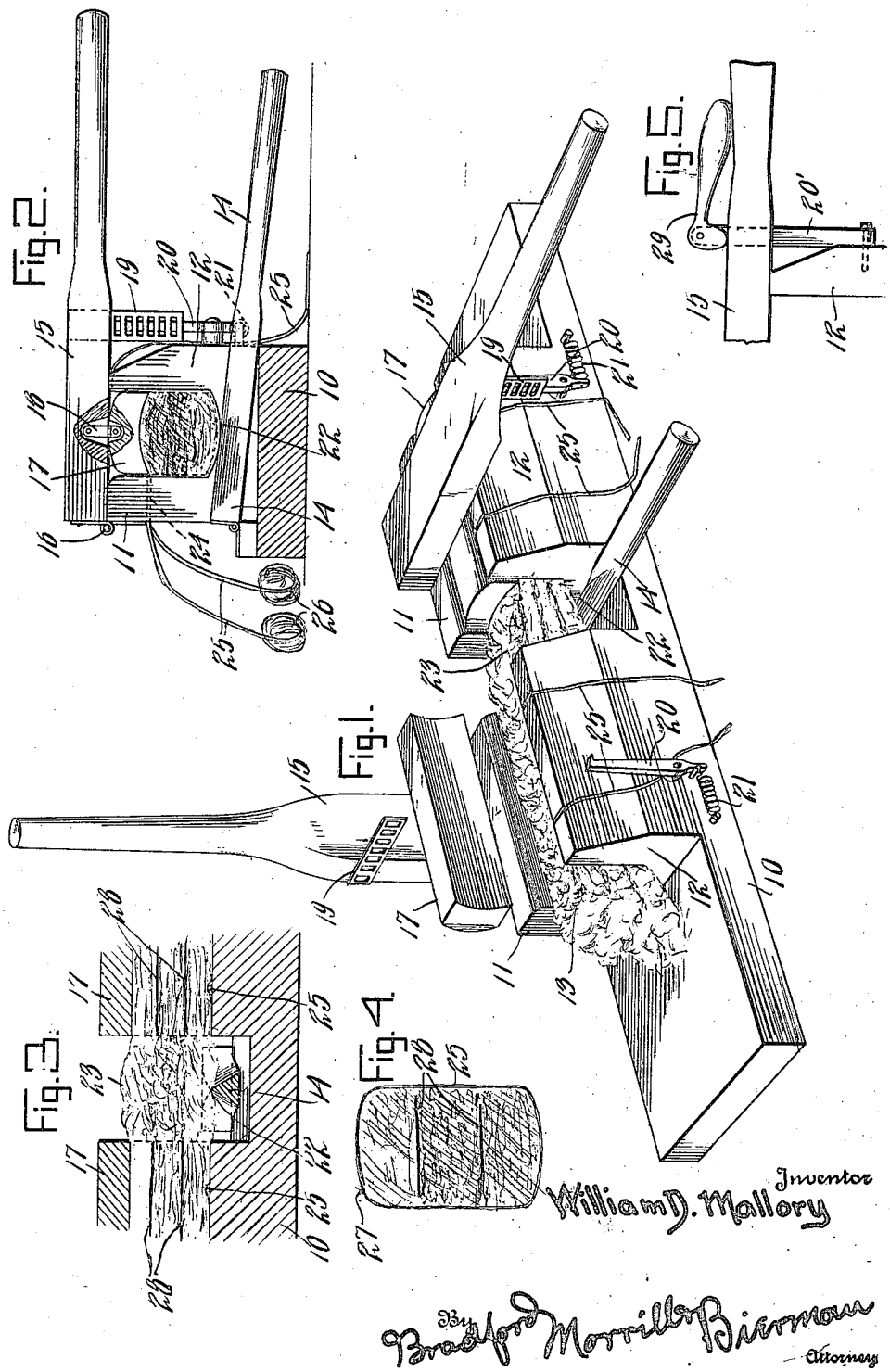
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METHOD OF AND APPARATUS FOR SAMPLING COTTON.

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1,429,899. Patented Sept. 19, 1922.



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UNITED STATES PATENT OFFICE.

WILLIAM DUNCAN MALLORY, OF MEMPHIS, TENNESSEE.

METHOD OF AND APPARATUS FOR SAMPLING COTTON.

Application filed November 1, 1919. Serial No. 335,221.

To all whom it may concern:

Be it known that I, WILLIAM DUNCAN MALLORY, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Methods of and Apparatus for Sampling Cotton, of which the following is a specification.

This invention relates to method of sampling cotton and apparatus for practising the method, and has for an object to provide a method, and apparatus, designed to extract a small amount of cotton from different locations within the bale, while the bale is being ginned or formed, and providing means for maintaining the specimens, secured from the different locations in the bale, separated into samples for future reference, for the purpose of disclosing the grade of staple in the different sections of the bale.

As an apparatus, the device comprises a small hand-press into which layers of cotton, taken periodically during the ginning or baling of same, is introduced and after the several samples, from the several positions in the bale, are inserted in the hand-press, separated by sheets of paper or the like, the whole is compressed to a reasonable degree and the sample tied, making it possible to refer to the sample at any time in the future and determine therefrom the grade of cotton contained in the bale as disclosed at the different locations.

Referring to the accompanying drawing, which is made a part hereof, and on which similar reference characters indicate similar parts,

Figure 1 is a perspective view of a sample press or a type of apparatus for carrying into effect the process,

Figure 2 is a vertical sectional view taken half way between the ends of Figure 1,

Figure 3 is a longitudinal sectional view through the press,

Figure 4 is a transverse sectional view through the sample bale produced by the press, and

Figure 5 is a fragmentary perspective view of a modified type of compression means.

It is the intent in practising the method, to put into the cotton gin or press an amount of cotton, as for instance one hundred pounds of lint cotton, then withdraw from the cotton as it passes through the gin or as it is being placed within the baling press or from the press itself a small amount of cotton which is laid in the bottom of the sample press and the ginning of the cotton or the filling of the baling press continued. When the baling press contains about one half a bale another sample will be removed, and after laying sheets of paper upon the sample already contained in the sample press, the second layer will be laid thereon. At a further point in the filling of the baling press as, for instance, when the press is three-quarters full, a third sample may be removed and similarly treated.

Of course it is obvious that any number of samples may be taken from as many sections in the bale while it is being ginned or baled as may be found desirable and after all are formed into a compact mass they are tied for the purpose of preventing displacement.

In carrying out the method, a press is employed having a base 10 with uprights 11 and 12, forming a receptacle for cotton which is laid therein as indicated at 13 in Figure 1. Preferably the uprights, and consequently the receptacles, are divided into two or more sections and between such sections is pivoted a lever 14. In introducing the cotton into the sample press the lever 14 is in a depressed position as shown at Figures 1 and 2, and the cotton laid over the top of such lever into the sections of the receptacle. For each receptacle so formed, a lever 15 is employed, which is hinged to one of the uprights 11 as at 16. Each of the levers 15 carries a follower 17 preferably pivoted thereto in some manner as by the link 18 to insure the proper positioning and equalization within the receptacle. For each of the levers some means is provided for retaining the follower in depressed position here shown as providing each of the levers 15 with a rack 19 and a detent 20 is pivoted to the base 10. A spring 21 serves to move the detent into an engagement with the rack as the levers are lowered. The lowering of the followers under pressure of the lever 15 will press and compact the cotton 13 contained in the receptacle. When both of the levers 15 are in depressed and locked in position the lever 14, which is provided with a reduced or somewhat sharpened edge as indicated at 22, is raised separating the fibers or staple of the cotton between the sections

of the receptacle as indicated at 23. It is desirable that the staple remain as far as practicable in natural condition and be cut or broken as little as may be in the manipulation. For this reason lever 14 is lifted slowly enough so that the staple has time and opportunity to separate with but little, if any, fracturing.

The uprights are also provided with openings 24 Fig. 2 through which twines 25 are passed from balls 26 and after the samples of cotton in the receptacles have been pressed, which have been previously laid into the receptacle on the top of such twines, the twines are tied as indicated at 27, forming a miniature bale as indicated at Figure 4 and separated by sheets of material as indicated at 28, indicating samples of cotton taken from different sections of the merchantable bale.

The press is made into sections as indicated at Figure 1, the number of sections being immaterial to the present invention for the purpose of producing a plurality of identical sample bales. In the method of sampling, it is the intent that the producer of the cotton shall retain one sample for future reference and to settle any dispute which may arise as to the quality of the cotton contained in the bale bearing identifying designations corresponding to the identifying designation of the sample bale. Another of the sample bales will be sent to the merchant, purchaser, factor, spinner, or the like, but more than one may be furnished if the conditions of marketing make it necessary or desirable. The use of such samples, taken from the bale during the baling, will obviate the necessity of tearing the bales and their enclosures, in storage, for the purpose of withdrawing samples therefrom as is done in the present practise of sampling.

It is obvious that in addition to the twines 25 and 24 by which the bale is tied, coverings of fabric, paper or any sheet material may be inserted in the receptacles before the cotton is introduced therein so that the ties 25 will, not only enclose a sample bale but the covering, fabric or the like, as well, to correspond substantially with the usual method of baling the cotton in merchantable bales but on a miniature scale and under less compression. In other words, it is the intent to produce at the time of producing the merchantable bale, a plurality of miniature bales which will disclose the texture of the staple within the merchantable bale to accompany or to otherwise identify and represent the quality of the merchantable bale and the present process includes the forming of such plurality of identical sample bales simultaneously with the forming of the merchantable bale by the use of such apparatus as may be necessary or desirable for the purpose.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:

1. The method of sampling cotton consisting in removing samples from various portions of the cotton entering into a merchantable bale, collocating the samples into a miniature bale, and providing means for identifying the samples and the portions of the merchantable bale from which the samples were removed.

2. The method of sampling cotton consisting in removing samples from various predetermined portions of the cotton entering into a merchantable bale, collocating the samples as strata, each sample having means for identifying it with the predetermined corresponding portions of the merchantable bale, and forming the strata into a miniature bale, substantially as set forth.

3. The method of sampling cotton consisting in removing at predetermined intervals during the formation of a merchantable bale portions of the cotton entering into its mass and collocating the samples into a miniature of the merchantable bale, the positions of the samples in the miniature bale corresponding to the positions of the portions of the merchantable bale from which they were taken, substantially as set forth.

4. The method of sampling cotton, consisting in removing samples from various portions of the cotton entering into a merchantable bale and collocating the samples into a miniature bale with the several samples separated, whereby each sample is distinguishable from any other and rendered comparable with the portion of the merchantable bale from which it was withdrawn.

5. The method of sampling cotton consisting in removing samples from various portions of the cotton entering into a merchantable bale collocating the samples, dividing the collocated samples into a plurality of identical sections and forming the sections into miniature bales, and providing means to identify each sample with the portion of the merchantable bale from which it was withdrawn, whereby each sample is distinguishable from any other and rendered comparable with the portion of the merchantable bale from which it was withdrawn.

6. The method of sampling cotton consisting in removing samples from various predetermined portions of the cotton entering into a merchantable bale, collecting in order the respective samples and interposing separating elements between them, dividing the collected mass into a plurality of equivalent sections and securing each section into the form of a miniature bale.

7. The method of sampling cotton consisting in removing samples from various

predetermined portions of the cotton entering into a merchantable bale superposing each sample upon another in the same order as corresponding portions of said merchantable bale with a separator therebetween, dividing the superposed mass into a plurality of equivalent sections and securing the sections into the form of miniature bales.

8. The method of sampling cotton consisting in at intervals removing samples of the cotton entering into a merchantable bale, laying upon each of the samples so removed a separator-sheet, superposing the successive samples in order corresponding to the parts of the main bale from which they are taken, compressing the several layers of cotton so superposed with the separating sheets, separating the compacted mass into a plurality of equivalent sections and tying the sections.

9. The method of sampling cotton consisting in taking from the cotton entering into the merchantable bale and as it is being ginned and at intervals during the ginning process samples of the cotton introducing such sample cotton into an apparatus for producing a plurality of equivalent small bales and securing it into miniature bales.

10. The method of sampling cotton consisting in removing from the cotton entering into the merchantable bale as it is being ginned and at intervals, specimens from the cotton entering into the merchantable bale, arranging the specimens so removed in superposed layers, separating the layers by interposed sheets into distinguishable parts, separating the pack so formed into sections, and tying the sections into equivalent sample bales.

11. The method of sampling cotton consisting in removing from the cotton entering into the merchantable bale, as it is being ginned and at intervals during the ginning, specimens of the cotton entering into the bale, laying upon each of the specimens so removed a separator-sheet superposing the next specimen thereon, compressing the several layers of cotton so superposed, tying the compacted mass into a plurality of equivalent sample bales and separating the bales.

In witness whereof, I have hereunto set my hand and seal at Memphis, Tenn., this 23rd day of October, A. D. nineteen hundred and nineteen.

WILLIAM DUNCAN MALLORY. [L. S.]

Witnesses:
JOHN W. FARLEY,
F. M. BAILEY.