

I. C. FIELDEN.
SPREADING MACHINE.
APPLICATION FILED OCT. 6, 1909.

950,617.

Patented Mar. 1, 1910.

Fig. 1.

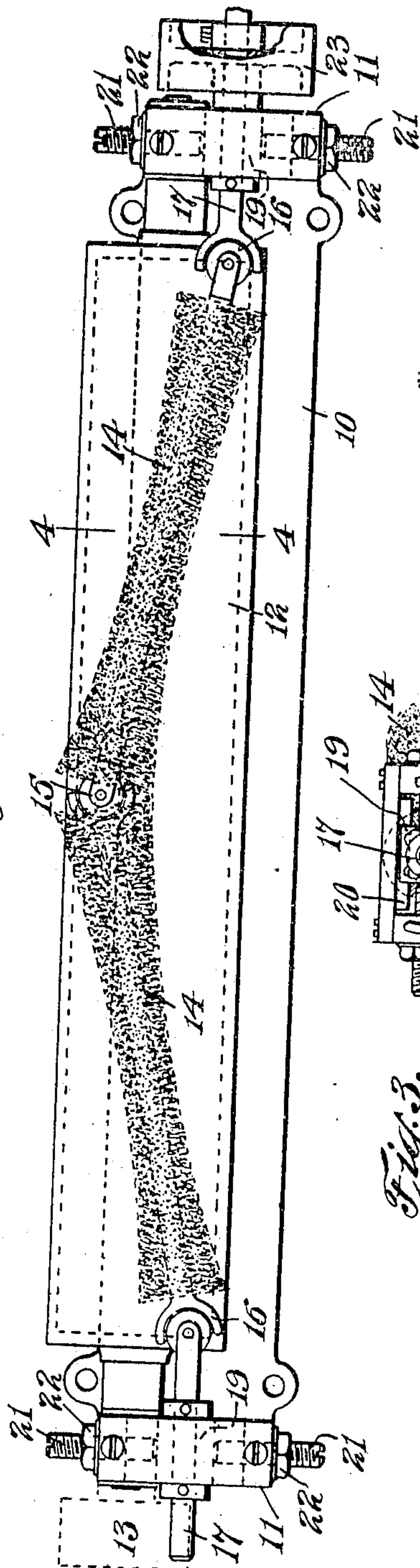


Fig. 4.

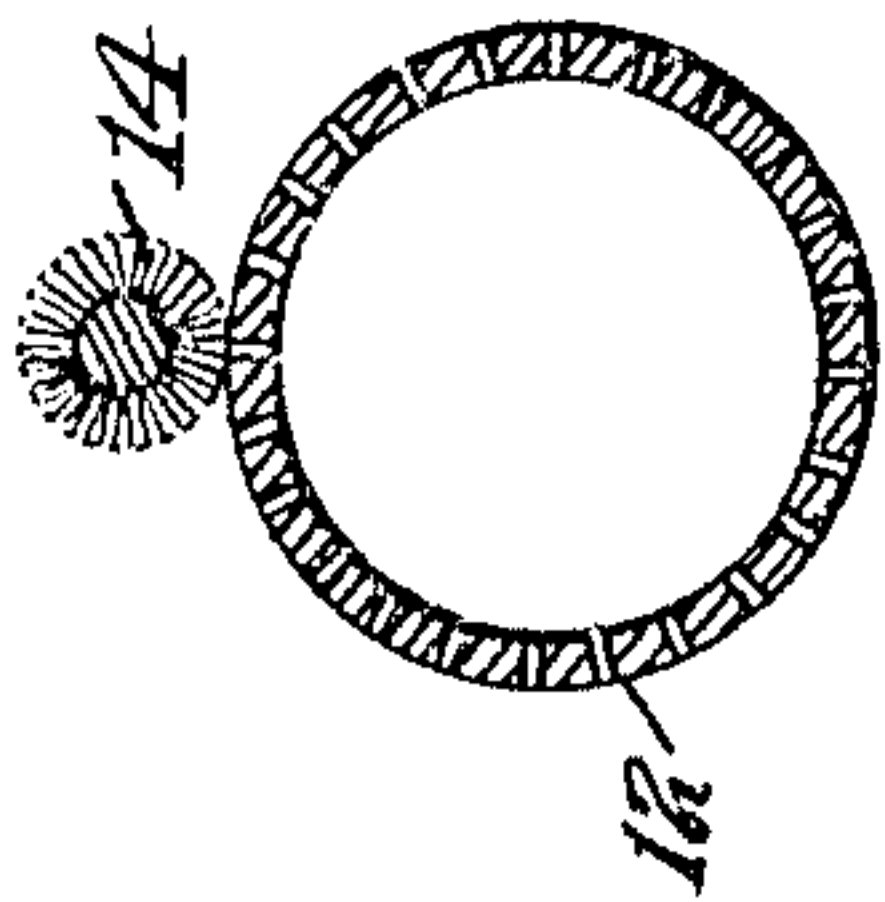


Fig. 3.

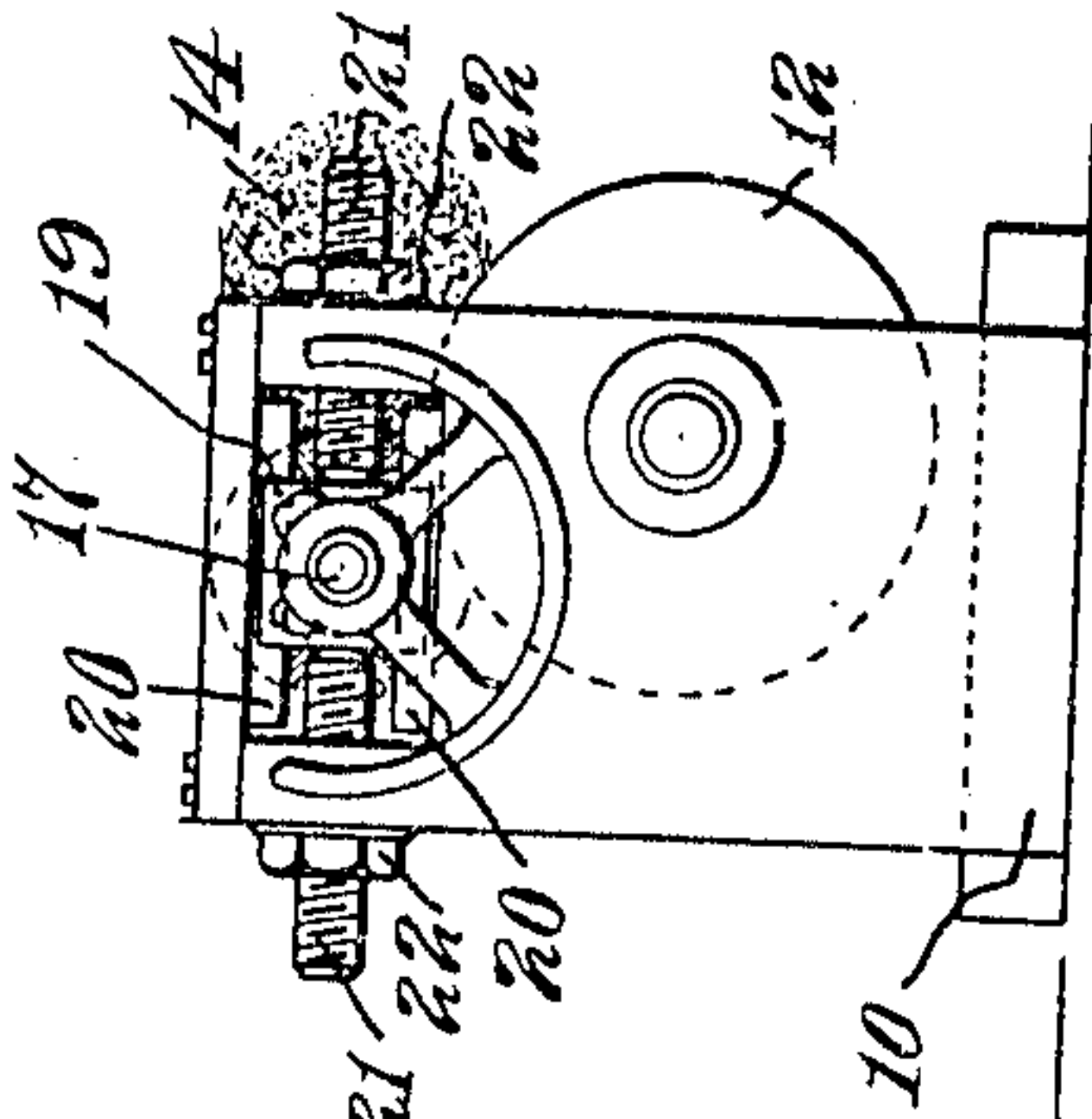
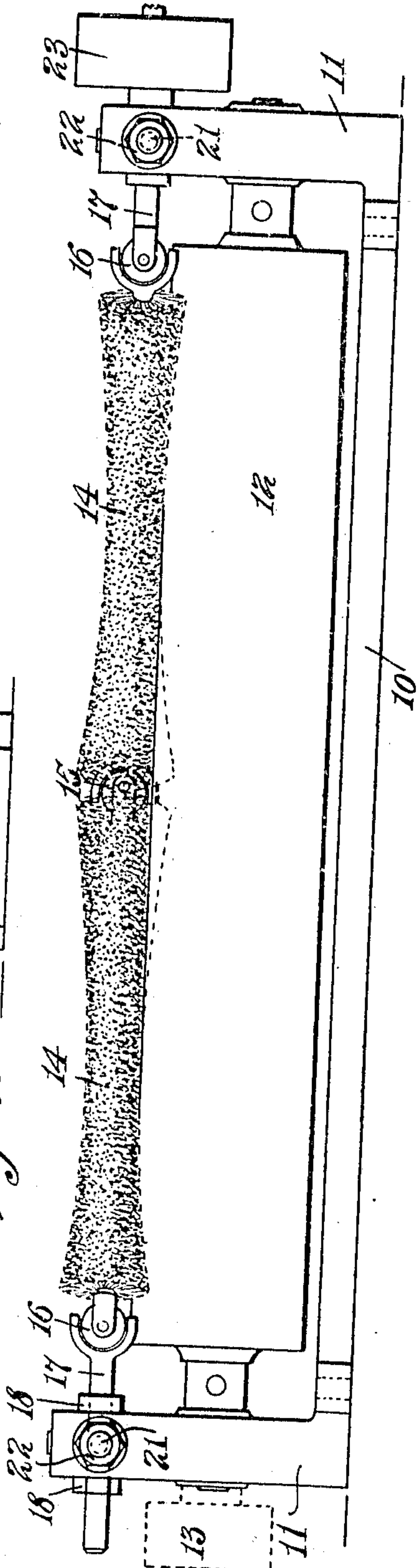


Fig. 2.



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UNITED STATES PATENT OFFICE.

ISAAC C. FIELDEN, OF LYNN, MASSACHUSETTS.

SPREADING-MACHINE.

950,617.

Specification of Letters Patent.

Patented Mar. 1, 1910.

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To all whom it may concern:

Be it known that I, ISAAC C. FIELDEN, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Spreading-Machines, of which the following is a specification.

This invention relates to machines for spreading or stretching sheet materials such as leather, paper or cloth, for working into the material substances to be applied thereto, and to remove wrinkles from the sheet material.

While the invention is susceptible of many uses, I have designed it especially for use for what is known as a seasoning machine which is employed in the process of tanning to spread the seasoning material on the skin and remove wrinkles therefrom.

The object of my invention is to provide a simple and easily operated machine of this character which will treat the material without subjecting the same to the action of any hard surfaces such as blades, and which will permit of an adjustment to vary the amount of spreading or stretching produced on the work.

To these ends my invention consists in the construction and combination of parts substantially as herein described and claimed.

Of the accompanying drawings,—Figure 1 is a plan view of a simple embodiment of my invention. Fig. 2 is a front elevation of the same. Fig. 3 is an end view from the right of Fig. 1. Fig. 4 represents a section on line 4—4 of Fig. 1, omitting illustration of parts beyond said section line in either direction.

Similar reference characters indicate the same or similar parts in all of the views.

A suitable base is provided such as indicated at 10, said base having standards 11, the base and standards indicating a conventional showing of a suitable frame. Mounted in the frame is a bed-roll 12, which is preferably hollow and the surface of which may be continuous or perforated. It may be of metal or other material, and it may be covered with some soft material such as felt, or rubber, or leather, when the nature of the sheet material operated upon is such that it is desirable to provide such a soft surface for the bed-roll. Said bed-roll may be an idle one, that is mounted so as to be rotated freely, or it may be driven by means of a pulley or gear indicated at 13

by dotted lines. A plurality of spreading rolls 14 (two being shown in the drawings) bear on the bed-roll. They are connected by a suitable universal joint 15, and their outer ends are connected by suitable universal joints 16 with shaft sections 17 mounted in bearing blocks 19 and held against longitudinal movement in said bearing blocks by means of adjustable collars 18. The bearing blocks 19 are supported by ways 20 in the frame or standards 11, and are engaged by the inner ends of adjusting screws 21 having binding nuts 22 by means of which the bearing blocks and the shaft sections 17 may be adjusted horizontally toward and from a position directly above the trunnions of the bed-roll, for a purpose presently explained.

Mounted on one of the shaft sections 17 is a pulley 23 so that by means of a belt (not shown) one of the spreading rolls 14 can be driven and by means of it and the universal joint 15, the other spreading roll will be driven.

The spreading rolls have yielding surfaces of brush material or felt or other suitable material. In the drawings, they are indicated as provided with bristles. The acting surfaces of these rolls are concave from end to end and in use they rest freely upon the bed-roll excepting so far as held by the shaft sections 16, and they will usually stand at an angle to each other about as indicated in Fig. 1, but their angle relatively to each other may be adjusted by changing the longitudinal position of one or the other, or both, of the shaft sections 17, by means of the collars 18. And usually when their positions are so adjusted, there will then be a suitable adjustment of the bearing blocks, by means of the screws 21, so that the longitudinal center of each spreading roll will bear on the top of the bed-roll directly above the axis thereof.

With the parts in the positions shown in the drawings, it may be assumed that the sheet material being treated is quite thin. But if it were considerably thicker, then the convexity of the upper surface of the material will be greater than would be the convexity of the upper surface of thin material. Then in order to have substantially uniform contact of the spreading rolls with the material throughout the ends of said spreading rolls, their angle relatively to each other should be increased. That is, the outer ends

of the spreading rolls should be brought nearer together.

In the treatment of some materials it is desirable that the amount of spreading or stretching action should be increased or diminished. This can be easily effected by shortening or lengthening the distance between the two universal joints 16—16. The yielding nature of the spreading rolls (and if desired, a yielding surface on the bed-roll) will permit of considerable adjustment of the relative angle of the two spreading rolls without materially affecting the action on the material being treated. It is to be understood that, when the material is fed between the bed roll and the spreading rolls, the spreading rolls, at the middle or point where they are joined at 15, may rise and fall. That is, they are free to bear with their full weight upon the material, excepting so far as their weight is partially supported by the shaft sections 17.

It will now be understood that I have provided means whereby the amount of spreading or stretching may be varied considerably, and easily, by simply changing the angle of the two spreading rolls relatively to each other. Consequently, when particular material being treated requires a greater amount of spreading or stretching to remove wrinkles and to secure the proper working in of the seasoning substance when the latter is used, the desired results can be easily and quickly secured.

Having thus explained the nature of my said invention and described a way of making and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is:

1. A spreading machine comprising a bed-roll, and a plurality of longitudinally concave rolls bearing thereon and having universal joint connections.

2. A spreading machine comprising a

bed-roll and a plurality of longitudinally concave rolls having yielding surfaces, said rolls bearing on the bed-roll and having universal joint connections.

3. A spreading machine comprising a bed-roll and a pair of longitudinally concave yielding rolls bearing on the bed-roll and connected together by a universal joint, shaft sections connected by universal joints to the outer ends of the concave rolls, and means for driving one of said shafts.

4. A spreading machine comprising a bed-roll, a pair of longitudinally concave rolls bearing on the bed-roll and having yielding surfaces, said rolls having a universal joint connection, shaft sections having universal joint connections with the outer ends of said concave rolls, means for driving one of said shafts and means for adjusting one of said shaft sections relatively to the other to vary the angle of the concave rolls relatively to each other.

5. A spreading machine comprising a bed-roll, a pair of longitudinally concave rolls bearing thereon and having yielding surfaces and having universal joint connections, and means for varying the angle of said concave rolls relatively to each other.

6. A spreading machine comprising a bed-roll, a pair of longitudinally concave rolls bearing thereon and having yielding surfaces, said concave rolls having universal joint connections, shaft sections having universal joint connections with the outer ends of the concave rolls, adjustable bearings for said shaft sections, and means for adjusting the shaft sections longitudinally in said bearings.

In testimony whereof I have affixed my signature, in presence of two witnesses.

ISAAC C. FIELDEN.

Witnesses:

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