E. HORTON.

BLANK FEED FOR BASKET MAKING MACHINES.

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1,008,339. Patented Nov. 14, 1911.

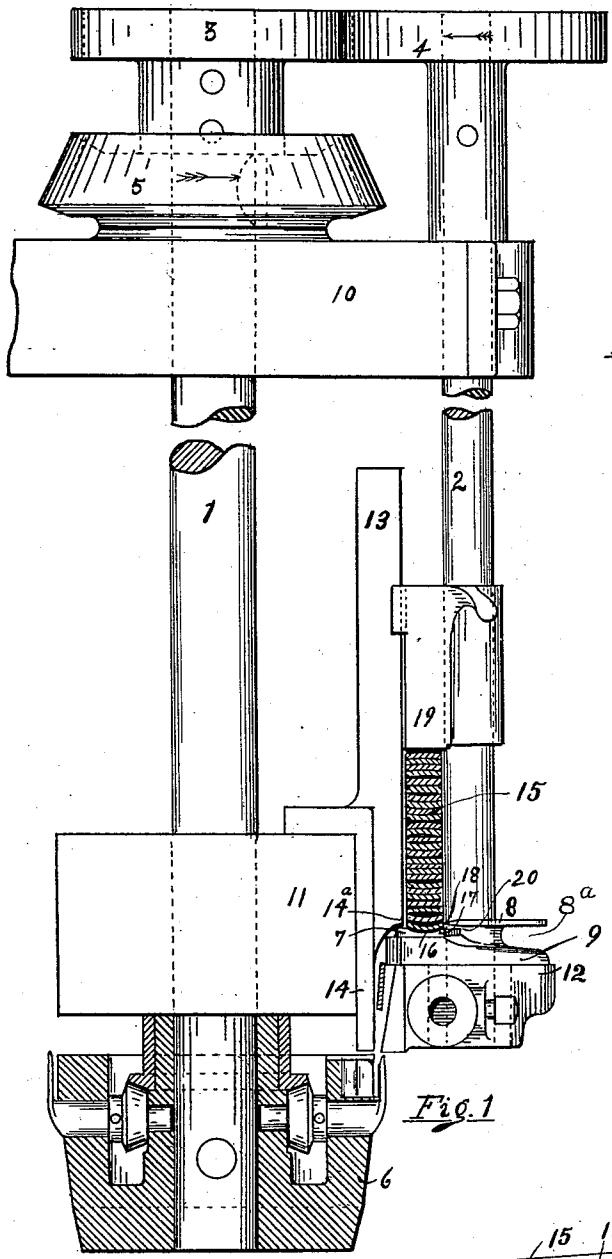

Fig. 1

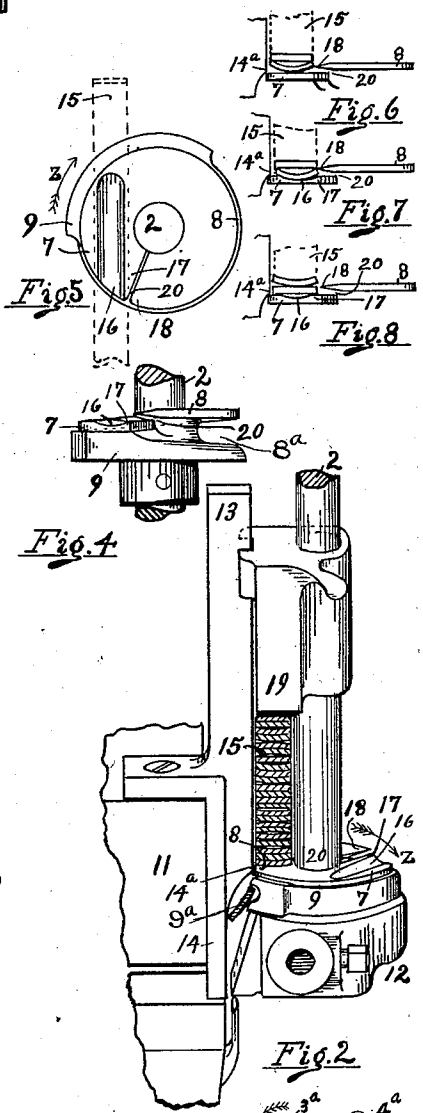

Fig. 2

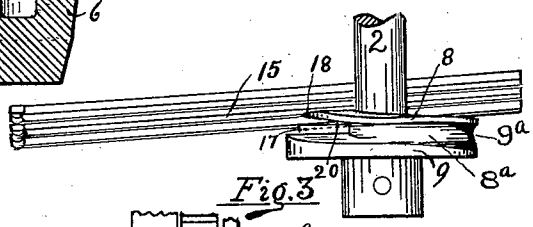

Fig. 3

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 4

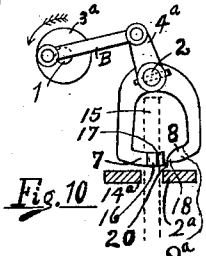

Fig. 10

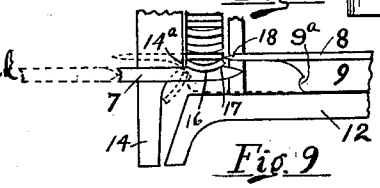

Fig. 9

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BLANK-FEED FOR BASKET-MAKING MACHINES.

1,008,339. Specification of Letters Patent. Patented Nov. 14, 1911.

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To all whom it may concern:

Be it known that I, EMMET HORTON, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Blank-Feeds for Basket-Making Machines, of which the following is a specification.

My present invention relates to the class of basket making machines more particularly shown in my Patents No. 635,724, and No. 635,725, of October 24, 1899, and Patent No. 680,149, of August 6, 1901. The machines of these patents are provided with a revolving spiral blade or screw and ejector disk for separating and feeding a portion of the stock for making a basket, from a pile thereof, toward the form of the machine.

My invention consists in an improvement in the form of such stock or blank separating and feeding blades and has for its object the means of regulating the blanks at the bottom or feeding side of the pile of blanks, to bring their edges successively into the same relation to the separating point of a blade for its entrance between them, whether the blank to be thus separated may be one which is flat or curved laterally, or in the direction in which the point is fixed to travel.

While I have chosen to principally illustrate my improvement as applied to the revolving spiral screw or blade, I do not confine the improvement to such form of feeding mechanism, as it is evident, as I have also illustrated, that it may be equally applicable to a form of feeding mechanism in which the blades may reciprocate directly back and forth, or to any form of mechanism that necessitates a regulation or adjustment of the blanks in their relation to the plane traveled by a point separating them.

In the accompanying drawings Figure 1 is a view in elevation of the form in section, and parts of a basket making machine with my improved spiral blank or band separating blades and ejector disk in proper relation therewith. The position of the feed screw is illustrated as just after having ejected a band by its shoulder into the channel leading to the hook on the form, and with the point of the separating blade about to enter, in the act of separating a curved band from the pile of bands. Fig. 2 is a perspective view of the same as Fig. 1 with only a small relative portion of the form and frame parts shown, but with the feed disks illustrated as having turned partially around and in the act of its shoulder expelling a band into the channel, and to also illustrate more plainly the concaved groove or hollow made in the upper surface of the disk just forward of its separating point, said groove having traveled around away from beneath the pile of blanks in the direction indicated by the arrow. Fig. 3 is a view in detail of the spiral separating blade and ejector disk in same position as Fig. 1 but looking in direction of the side of the pile of bands, showing a curved band at rest in the depression on the disk. Fig. 4 is a detailed view of the spiral separating and ejecting disks same as in Fig. 1 with the bands removed. Fig. 5 is a plan view of Fig. 4 showing the direction of the concaved groove or hollow in the disk in its relation to the blank bands, represented by dotted lines, at the time the separating blade is ready to enter in between them. Fig. 6 is illustrative of the parts of a separating blade and a supporting blade for the band blanks in which no groove or hollow has been made, the curved band showing out of line with the separating blade. Fig. 7 is illustrative of the same with the groove or hollow made in the band supporting blade, and the curved band therein thus adjusted to the separating blade. Fig. 8 is illustrative of the same as Fig. 7 excepting a flat band is in place over the groove instead of curved one. Fig. 9 is illustrative of blank separating and supporting blades, when fixed to reciprocate back and forth as indicated by the dotted lines instead of having a complete revolution. The supporting blade is supplied with the groove or hollow and the separating blade with a band ejecting shoulder nearer its separating point than said shoulder is when the blades are fixed to revolve. Fig. 10 is a plan view showing how the band supporting and separating blades may be oscillated by connecting to the band shaft with crank and pitman instead of the intermeshing gears for the rotating of the band shaft as is done in Fig. 1.

Referring to the drawings 1 represents the form shaft and 2 the band screw shaft. In case the band shaft is to be given full revolution, there are fixed gears 3 and 4, one on the upper end of each of these shafts, intermeshing with each other, and on the form shaft a bevel gear 5 by means of which rota-

tion is imparted to the form 6 on the lower end of the form shaft and the band feeding devices 7, 8, and 9 on the lower portion of the band shaft. Supports to the shafts being given by the portions of the frame 10, 11, and 12. In the event that the band shaft is merely rocked back and forth or given only a part of a revolution to effect like results in the separation and delivery of a band from the pile of bands, a crank 3^a, (see Fig. 10) may be substituted for the gear 3 on the form shaft, and a crank 4^a, for that of the gear 4 on the band shaft, with a pitman B connecting them. For the reason that the band shaft, in this case will only have a partial revolution back and forth, the band supporting and separating disk may be cut away to retain only arms for supporting at their outer ends the band supporting blade 7 and the band separating blade 8.

13 and 14 represents a band plate and throat plate respectively fixed vertically to the frame part 11, between this band plate and the band shaft 2 is formed a channel or reservoir for receiving and holding a pile of bands 15, the forward ends of which rest principally on the upper side of the band supporting blade 7 of the disk, nearest its periphery.

For a further detailed description of the coöperate parts of the form and band feed, reference may be had to my former patents above mentioned, my present improvements relating more particularly to the means for the adjustment of blanks or bands into a uniform position previous to their separation from the pile of blanks, and in the formation of blades for supporting, separating and ejecting blanks or bands.

In accomplishing my improvement I have provided a concaved groove or hollow 16, which provides for a raised part 17, on the upper side of the band supporting portion of the disk or blade 7, beginning at its upper edge just in front of and below the advancing point 18 that separates a blank from the pile, and extending partially or fully across the upper side of the plate. The direction of this groove and consequently raised part 17 being such as will bring it directly parallel with and underneath the lowermost band of the pile of bands at the time the advancing point 18 of the blade is about to enter and separate from the pile said lowermost band. The shoulder or part 14^a of the band plate serves to hold the bands and resist their displacement while the blades are traveling from underneath and between them.

Previous to my improvements as represented in the concaved groove or hollow in the supporting blade in front of the separating point, there was no way but by the application of a weight 19, for the adjustment of the edges of a curved band to bring it into line with the opening 20 between the adjusting end 17 and the separating point 18 of the blades. See Figs. 6, 7, and 8.

Fig. 6 shows the relation of a curved band to the opening between the blades when there is no groove in the supporting blade to receive the curved portion of the band, thus the separating blade is very likely to either puncture or pass underneath the band by reason of the edges of the band resting higher than the point of the separating blade. If a sufficient weight is applied to flatten a column of these bands it prevents easy and proper action of the separating blades upon them, and such a weight, as the column of bands reduces in height, becomes more and more resistful in its action to oppose said blades. Therefore in connection with my improved form of blades I use a weight 19 which is only sufficient to press the bands moderately together, it being fixed to slide on the band shaft 2 or guided in any suitable manner to rest on the bands.

The same illustration of the bands and blades is made in Fig. 7 as in Fig. 6 except in Fig. 7 the supporting blade is provided with a groove or depression to receive in it the curved side of the band which thus permits its edges to come below the separating point and into line with the opening 20 between the blades, said blades traveling in direction of the arrow Z. As the point finds its way in over the edge of the band to be separated, said band is forced to straighten and pass out through said opening, while a flat or oppositely curved band will pass over the groove or depression in the plate without being affected in the plane of its alinement to the point or opening of the blades as represented in Fig. 8.

In making the feed disk I have constructed same in two parts, one of which is the disk forming the two blades 7 and 8 for supporting and separating the bands, and the other a disk 9 joined thereto and spirally formed to constitute a band receiving channel 8^a between the two disks and terminating in a band ejecting shoulder 9^a. By the use of the two disks the irregular construction of the feed is simplified so when the separating blades become worn they may be replaced without loss of other parts, the disks however being practically integral in operation.

Having thus fully described my improvements what I claim is:—

1. In a band feed for basket making machines, a radially divided spiral blade or disk having one end pointed for separating blanks, and the other end provided with a groove for blanks to adjust into line with the pointed end.

2. In a band feed for basket making machines, a radially divided disk having one

end where divided offset and pointed for separating blanks and the other end provided with a depressed surface and raised edge for the blanks to adjust into line with the separating point.

3. In a blank feed for basket making machines, in combination, blank supporting and blank separating blades, the supporting blade having a depression or groove in it to come in contact with the blanks to permit of their adjustment, the separating blade having a point offset adjacent to the grooved part of the supporting blade to form a blank passage between them, means for ejecting the blank after its separation from the pile of blanks, and means for traveling the blades in unison.

4. In a blank feed for basket making machines, a spirally formed blade and disk having a groove for the bands to adjust into line adjacent to the separating edge of the blade, and a spirally formed band receiving channel terminating in a band ejecting shoulder.

5. In a blank feed for basket making machines, in combination, a shaft, a spirally formed disk carried by the shaft, a band receiving groove in the upper side of the disk, and a slot and point adjacent to the groove.

6. In basket making machine band feed, the combination with the form of a band reservoir for holding a column of bands, guides therefor, movable band feeding blades, one of said blades having a groove extending in a line with and underneath the bands, and the other a point adjacent to the groove to enter between the bands, said blades alternately supporting the column of bands in the act of separating and delivering a band therefrom, an opening between the blades for the separated band to pass and a band ejecting shoulder for delivery of the separated band toward the form.

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

EMMET HORTON.

Witnesses:
BENJAMIN BLAMPIED,
JAY R. HORTON.