C. A. WAKEMAN.

EXCELSIOR PAD MACHINE.

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1,321,576.

Patented Nov. 11, 1919.

Fig. 1.

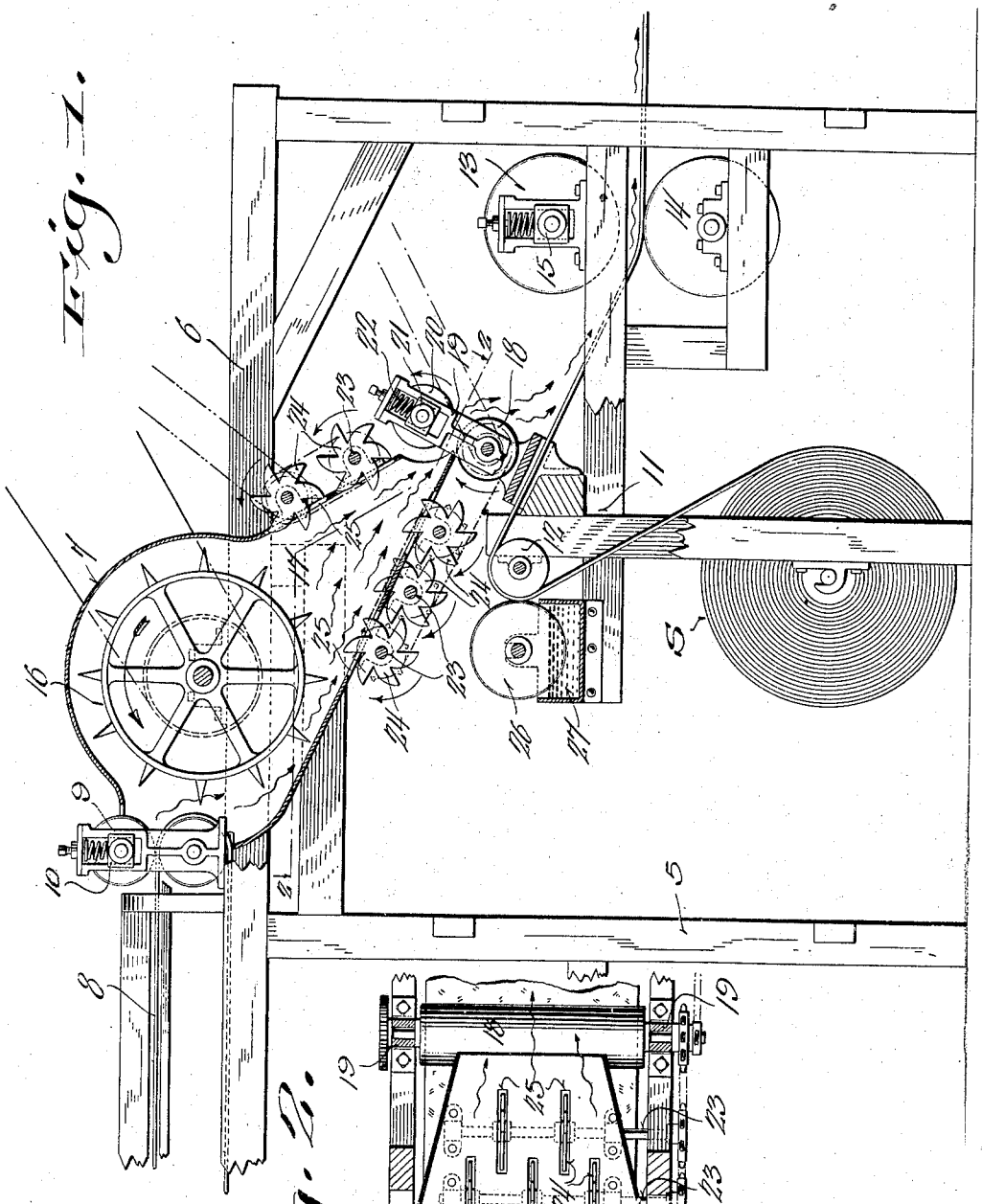
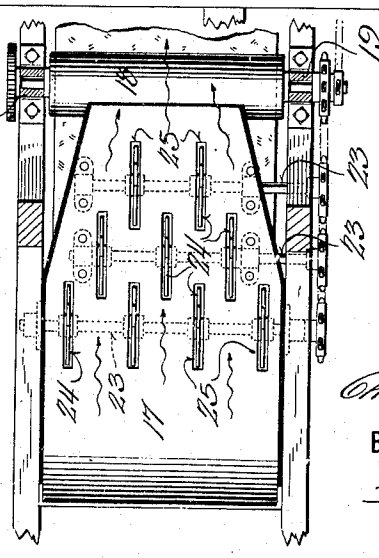


Fig. 2.



WITNESSES:

INVENTOR

Charles A. Wakeman

BY Young & Young

ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES A. WAKEMAN, OF OSHKOSH, WISCONSIN.

EXCELSIOR-PAD MACHINE.

1,321,576. Specification of Letters Patent. Patented Nov. 11, 1919.

Application filed November 7, 1918. Serial No. 261,544.

To all whom it may concern:

Be it known that I, CHARLES A. WAKEMAN, a citizen of the United States, and resident of Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Excelsior-Pad Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in excelsior pad machines and is more particularly directed to the provision of means for feeding excelsior from the picker drum of the machine to the wrapper sheet of the pad.

In excelsior pad machines of that type including a picker drum discharging into a hood or throat from which excelsior is fed to the wrapper sheet of the pad, a considerable disadvantage resides in the difficulty of feeding the excelsior through the throat onto the sheet, the excelsior having a tendency to bank up within the hood or throat and to choke against the picker drum.

It is therefore the object of my invention to provide an improved arrangement for procuring a positive feeding movement of excelsior from the picker drum to the wrapper sheet and it is more particularly an object to provide a feeding arrangement including portions which, while having positive feeding engagement with the excelsior will not catch in the same as the portions move from such feeding engagement.

A further object resides in the provision of an improved arrangement for constricting the mass of excelsior as it passes from the picker drum, so as to procure a most even distribution thereof on the wrapper sheet.

With the above and other objects and advantages in view, which will be apparent as the description proceeds, my invention resides in the novel features of construction, combination and arrangement of parts as hereinafter described and defined by the appended claims.

In the accompanying drawings:

Figure 1 is a vertical sectional view through the picker drum concave and wrapper feeding means of an excelsior forming machine showing my invention.

Fig. 2 is a sectional view therethrough on the planes indicated by the broken line 2—2 of Fig. 1.

Referring now more particularly to the accompanying drawings, there is shown a main frame including standards 5 supporting sills 6 on which is mounted the usual picker drum casing 7 which is fed with excelsior from an endless belt 8, excelsior passing under the roller 9 mounted in spring urged boxes 10 at the receiving mouth of the casing. A roll of wrapper sheeting *s* is carried by a suitable framework 11 under the concave, and from this roll the sheeting extends upwardly and is trained about a roller 12 and then extended rearwardly in a downwardly inclined direction and passes between upper and lower rollers 13 and 14, the upper roller 13 being mounted in spring urged boxes 15. A picker drum 16 is mounted in the casing, carrying the usual radial picker teeth whereby, when the drum is rotated at a very high speed, the excelsior supplied to the casing by the belt 8 will be further shredded and separated for proper condition for feeding onto the wrapping sheet.

To procure this feeding action, the portion of the casing is merged into a downwardly inclined throat 17 which is taperingly reduced in height toward its rear and lower end whereby to compress the excelsior as it moves rearwardly in the throat. The bottom of the throat is substantially parallel to the downwardly inclined stretch of the wrapper sheet between the roller 12 and the rollers 14 and 15, and said bottom tangentially meets the upper periphery of a roller 18 mounted in standards 19 projecting from the framework 11 at right angles to the said inclined stretch of wrapper sheet, said stretch of wrapper sheet passing under the roller. A second roller 20 is mounted in boxes 21 slidably carried by the standards 19 above the roller 18 and resiliently urged theretoward by the springs 22, it being noted that the normal space between the rollers is considerably less than the height of the discharge mouth of the conveying throat 17. To procure a positive passage of excelsior through said throat, series of transverse driven shafts 23 are journaled outwardly of and adjacent the top and bottom of the conveying throat and these shafts carry wheels 24 having radial teeth therefrom projecting through slots 25 in the top and bottom of the throat. The forward sides of the teeth with respect to the direction of rotation of the wheels, are convex, and their rear sides are substantially radial. Hence, upon driving rotation of the wheels,

the excelsior in the throat will be positively engaged and fed forwardly, while at the same time the occurrence of any projection in which the excelsior might catch and be withdrawn from its conveying path is entirely avoided.

An exceedingly positive feeding action is thus set up, in contradistinction to the belts heretofore relied upon to impart conveying movement of excelsior through the throat.

Referring now more particularly to Fig. 2, it will be seen that with respect to the bottom of the conveying throat, a bank of wheels 24 is provided, which progressively decrease in width toward the discharge end of the throat, although it will be appreciated that any number or arrangement of the wheels may be procured to effect a most efficient feeding action under existing conditions.

A wrapper sheet is supplied with its usual coating of paste by a roller 26 engaging in a paste pot 27 mounted on the framework 11 and contacting with the wrapper sheet as it passes about the roller 12. In the operation of the described mechanism, excelsior is fed to the picker drum 16 in the usual manner, it is thereby shredded and passes into the conveyer throat 17. Clogging of the excelsior in said throat is positively prevented by the feeding action of the conveyer wheels 24, and the excelsior is fed in a uniform manner from the restricted end of the throat and between the rollers 18 and 20 and is deposited on the pasted surface of the wrapper sheet.

What is claimed is:

1. In a machine of the class described, a device for feeding excelsior and the like comprising a conveyer passageway having opposed wall portions provided with sets of slots and wheels having their peripheral portions projecting through the slots of the wall of said passageway and toothed to engage material in said passageway.

2. In a machine of the class described, a device for feeding excelsior and the like comprising a conveyer passageway, taperingly reduced toward one end, and wheels having their peripheral portions projecting into said passageway and toothed to engage material in said passageway.

3. In a machine of the class described, the combination with a picker casing, and means for supporting a stretch of wrapper sheet, of a throat extending from the casing to a point adjacent the sheet support means and taperingly reduced toward said sheet support means, and drive feeding wheels having their peripheral portions projecting into the throat and toothed to engage material therein.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

CHARLES A. WAKEMAN.