A. R. STAMETS.

ADJUSTABLE DECKLE FOR WET CYLINDER PAPER MACHINES.

APPLICATION FILED JULY 22, 1914.

1,161,747.

Patented Nov. 23, 1915.

2 SHEETS—SHEET 1.

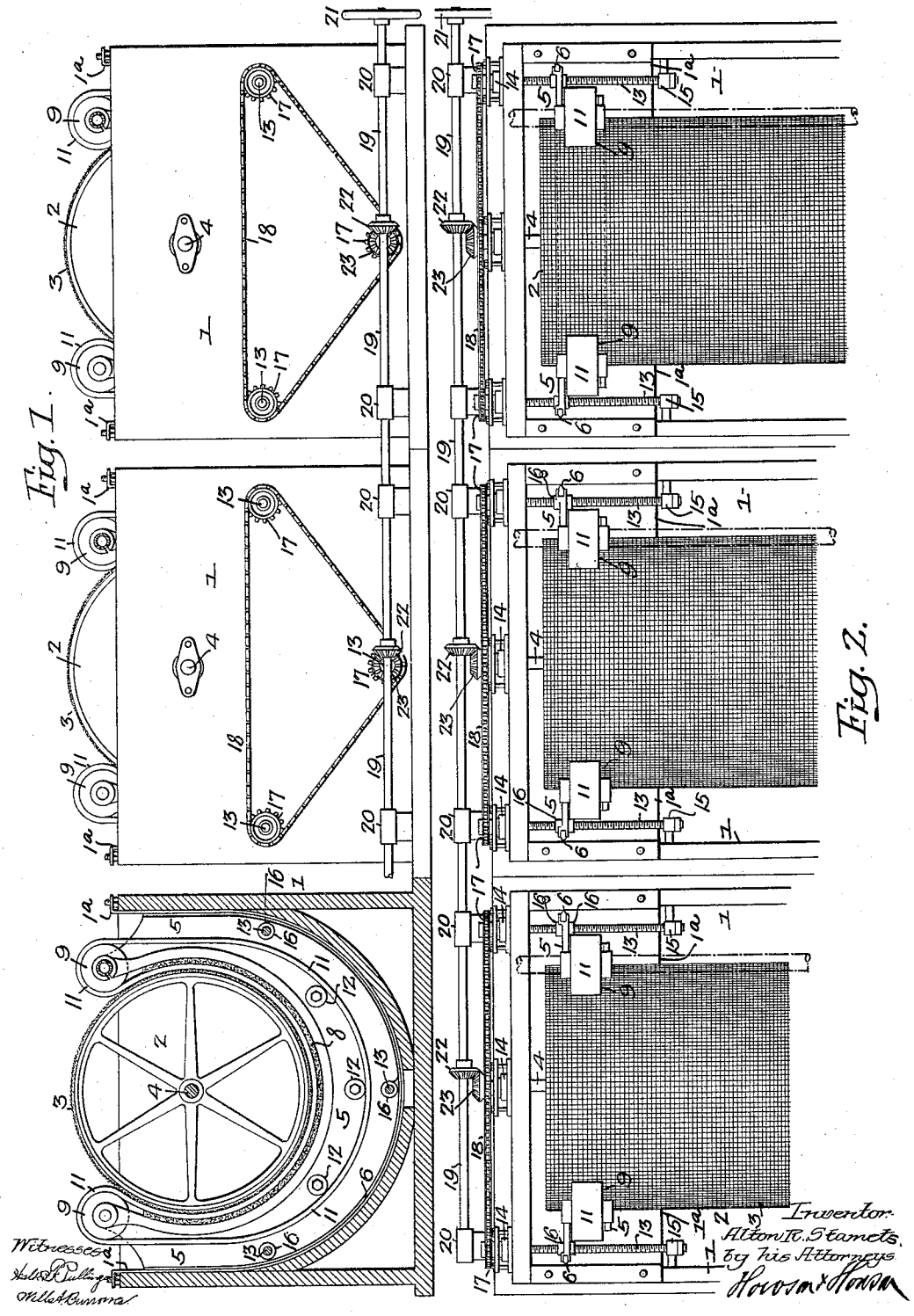


Fig. 1.

Fig. 2.

Witnesses:
Walter Pellegrini
Miles Summa

Inventor:
Alton R. Stamets.
By his Attorneys
Howson & Howson

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

A. R. STAMETS.

ADJUSTABLE DECKLE FOR WET CYLINDER PAPER MACHINES.

APPLICATION FILED JULY 22, 1914.

1,161,747.

Patented Nov. 23, 1915.

2 SHEETS—SHEET 2.

Fig. 3.

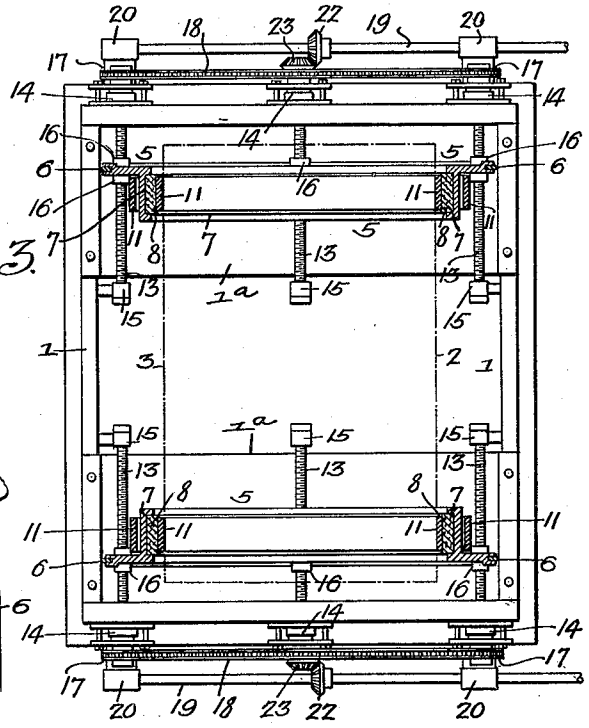


Fig. 8

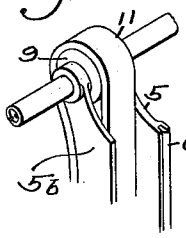


Fig. 7.

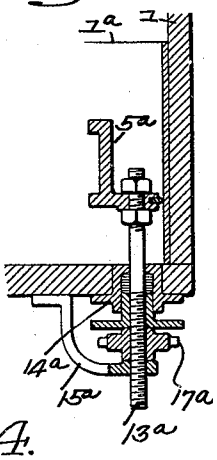


Fig. 5.

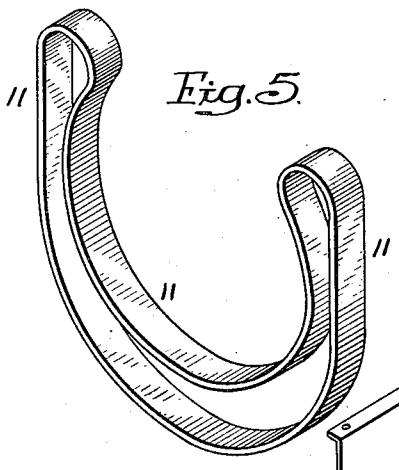


Fig. 4.

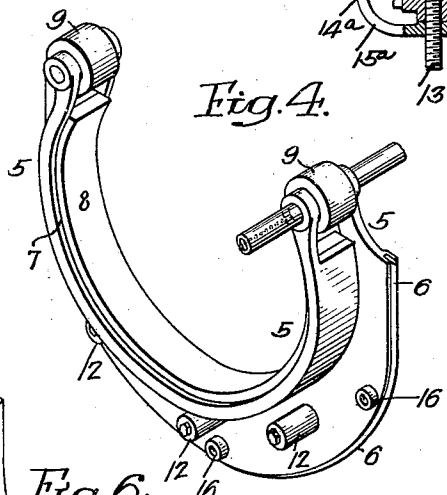
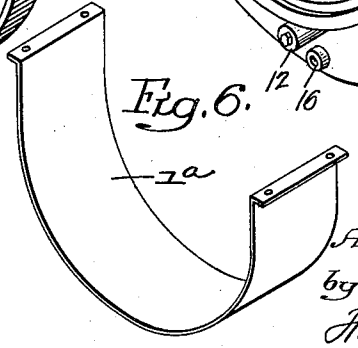


Fig. 6.



Witnesses.—

Walter F. Pellinger

Wilbert Burrows

Inventor.—

Alton R. Stamets.

by his Attorneys.—

Howson & Howson

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALTON R. STAMETS, OF GLOUCESTER CITY, NEW JERSEY.

ADJUSTABLE DECKLE FOR WET-CYLINDER PAPER-MACHINES.

1,161,747. Specification of Letters Patent. Patented Nov. 23, 1915.

Application filed July 22, 1914. Serial No. 852,441.

To all whom it may concern:

Be it known that I, ALTON R. STAMETS, a citizen of the United States, and a resident of Gloucester City, county of Camden, State of New Jersey, have invented certain Improvements in Adjustable Deckles for Wet-Cylinder Paper-Machines, of which the following is a specification.

One object of my invention is to improve the construction of cylinder paper machines by making the deckles laterally adjustable so as to regulate the width of the sheets of paper formed upon the cylinder.

A further object of the invention is to provide means for making a tight joint between the deckle and the cylinder so as to prevent the escape of the pulp at the space in the side beyond the deckle.

A still further object of the invention is to provide means for simultaneously adjusting the deckles of paper machines as fully described hereinafter, reference being had to the accompanying drawings, in which:—

Figure 1, is a side view, partly in section, showing a set of three cylinders used in connection with paper making machines; Fig. 2, is a plan view of one end of a series of paper making machines; Fig. 3, is a sectional plan view of a part of one of the machines; Fig. 4, is a detached perspective view of the deckle frame; Fig. 5, is a perspective view of one of the deckle bands; Fig. 6, is a perspective view of the U-shaped lining; Fig. 7, is a view of a modification of the means for adjusting the deckle frames; and Fig. 8, is a view showing guides for the deckle band.

I have illustrated a set of three machines located in line one with another, so that a three-ply sheet of paper can be formed by combining the product of the three machines. This is common practice and requires no further explanation.

Each machine has a vat 1, a cylinder 2, having a screen 3 thereon. The cylinder is mounted on a transverse shaft 4, and any suitable means is provided for rotating this shaft. The vat is supplied with the paper stock and a suction device is provided for creating a suction within the cylinder so that, as the cylinder rotates, a certain amount of the stock is drawn up the screen. Means is also provided for removing the stock from the screen as the cylinder rotates forming the sheet. In order to regulate the width of the sheet a deckle is located on the side of the cylinder. Extending across each cylinder, above the liquid line, is a felt and above this felt is the ordinary couch roll. The paper is drawn from the cylinder under this roll. A spray pipe is used to spray water on the cylinder so as to keep it clean after the paper has been removed. All of the above described mechanism is common to this type of machine and the primary object of my invention is to improve the form of deckle and to provide means for adjusting the deckles simultaneously.

Located in each end of the vat 1 is a U-shaped lining 1^a, preferably of brass or bronze. The lining is flanged and the flanges extend over the top of the sides of the vat. Set screws are provided for vertically adjusting the linings so as to bear against the deckle frames.

5, 5 are the deckle frames, one located within the vat near each end thereof. These frames are U-shaped in cross-section to fit the U-shaped lining 1^a, and have a peripheral packing 6 which fits against the said linings of the vat 1. The frames are grooved, as at 7, to receive a segmental strip of felt 8, or other suitable material. The felt extends above the surface of the liquid containing the paper stock.

Mounted on the upper end of each frame 5 are two rollers 9 over which passes the endless deckle band 11. This band extends between the wire screen 3 and the felt 8. The joint between these two is such that no paper stock can pass beyond the frames 5. The other portion of the band hangs freely within the vat, as shown in Fig. 1. Anti-friction rolls 12 are located at intervals so as to guide this run of the band. By this construction the pulp is retained in the space between the two deckle frames.

In order to move the deckle frames in unison toward and from each other, so as to increase the width of the paper being formed on the cylinders 2, I mount three screw rods 13 in bearings 15 and extend these through stuffing boxes 14 secured to the outside of the vats, and on the deckle frame 5 are nuts 16

through which the screws extend, so that, on turning the screws in unison, the deckle frame will be moved toward and from the center of the vat.

In order to turn the screws in unison, I secure to each screw a sprocket wheel 17 around which passes a chain 18, as shown clearly in Fig. 1, and secured to the lower sprocket wheel of each vat is a bevel gear wheel 23 which meshes with a bevel gear wheel 22 on the shaft 19 adapted to bearings 20. This shaft extends along the full length of the series of vats, so that, on turning the shaft 19 by the hand wheel 21, all the sprocket wheels will be turned in unison on that side of the several vats and, as there is a duplicate of this mechanism on the opposite side of the vat, the deckle frames at each side are independently adjusted.

In place of the construction illustrated in Figs. 1 and 2, I may use the construction illustrated in Fig. 7, in which the screw 13^a is secured to the deckle frame 5^a and passes through a stuffing box 14^a in the casing, and the sprocket wheel 17^a is in the form of a nut and turns on the screw.

15^a is a bracket to hold the sprocket wheel in position. On turning the sprocket wheel 17^a the deckle frame 5^a will be moved in either direction.

In Fig. 8, I have shown a flange 5^b on the deckle frame to hold the deckle band on the roller 9, if it is found desirable. The roller may have a certain amount of side play on its bearing to allow the band to run free.

I claim:—

1. The combination in a cylinder paper machine, of a vat; a cylinder mounted therein and having a screen; a deckle frame partly inclosing the cylinder and fitting the vat forming a partition; an endless deckle band carried by the frame, one portion of the band bearing against the cylinder; and yielding means on the frame bearing against the band so as to make a tight joint between the frame and the band to prevent the paper stock from passing beyond the deckle frame.

2. The combination of a vat; a cylinder mounted therein; a screen on the cylinder; a deckle frame fitting the side walls of the vat at or about the liquid line and having a segmental groove; a felt mounted in the groove extending above the liquid line; with an endless belt supported by the frame, one portion of the belt extending between the cylinder and the segmental felt, the other portion of the belt being out of contact with the cylinder.

3. The combination of a vat; a cylinder mounted in the vat; a deckle frame located in the cylinder, the ends of the deckle frame resting against the sides of the vat; two rollers mounted in the upper portion of the deckle frame, one at each side of the cylinder; an endless band arranged to pass around both rollers and looped, the inner loop bearing against the cylinder, the outer loop being free of the cylinder; and a segmental strip of felt carried by the frame and bearing against the inner loop of the band.

4. The combination of a vat; two fixed U-shaped linings, one located at each end of the vat; a cylinder mounted in the vat; a deckle frame mounted in each end of the vat and directly encircling the cylinder; each deckle frame fitting the lining; an endless band carried by each deckle frame, the bands being looped so as to pass under the cylinder, the inner section of each band bearing against the cylinder; and means for adjusting the frames toward and from each other to increase or diminish the width of the paper produced.

5. The combination in a cylinder paper making machine, of a vat; a sheet metal segment located at each end of the vat and forming a fixed lining; means for vertically adjusting each segment; a screen cylinder mounted in the vat; two deckle frames partly encircling the cylinder, one frame being located at each end of the vat and fitting the linings; a deckle carried by each frame; and means for adjusting the frame toward and from each other.

6. The combination of a vat; a cylinder mounted therein; two deckle frames within the vat extending from one side thereof to the other and partly encircling the cylinder; an endless band under the cylinder and carried by the deckle frame and fitting between the frame and the cylinder so as to make a tight joint; nuts on the frame; screw shafts carried by the vat and extending through the nuts, said screw shafts being geared together; a set of screw shafts for each deckle frame, one set being located on one side of the vat and the other on the opposite side; and means for adjusting each set in unison so as to increase or diminish the width of paper formed on the cylinder.

7. The combination of a series of vats arranged in line one with another; a cylinder in each vat; a deckle frame at each end of each vat and partly encircling the cylinder; deckle bands carried by the said frames; means for traversing the deckle frames in each vat toward and from each other; and mechanism for actuating said last mentioned means so that all of the deckle frames on one side of the vat will travel in unison.

8. The combination of a series of vats arranged in line; cylinders in each vat; two deckle frames in each vat; a series of screw shafts on each deckle frame; sprocket wheels on each screw shaft; a chain passing around the sprocket wheels; a beveled gear wheel on one of the sprocket wheels at each side of each vat; a longitudinal shaft at each side of the vats; and beveled gear wheels on said shafts meshing with the first

mentioned beveled gear wheels of the different vats so that, when the longitudinal shafts are turned, the several sprocket wheels will be turned to move the deckle frames of each vat toward and from each other.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ALTON R. STAMETS.

Witnesses:
WM. A. BARR,
JOS. H. KLEIN.

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