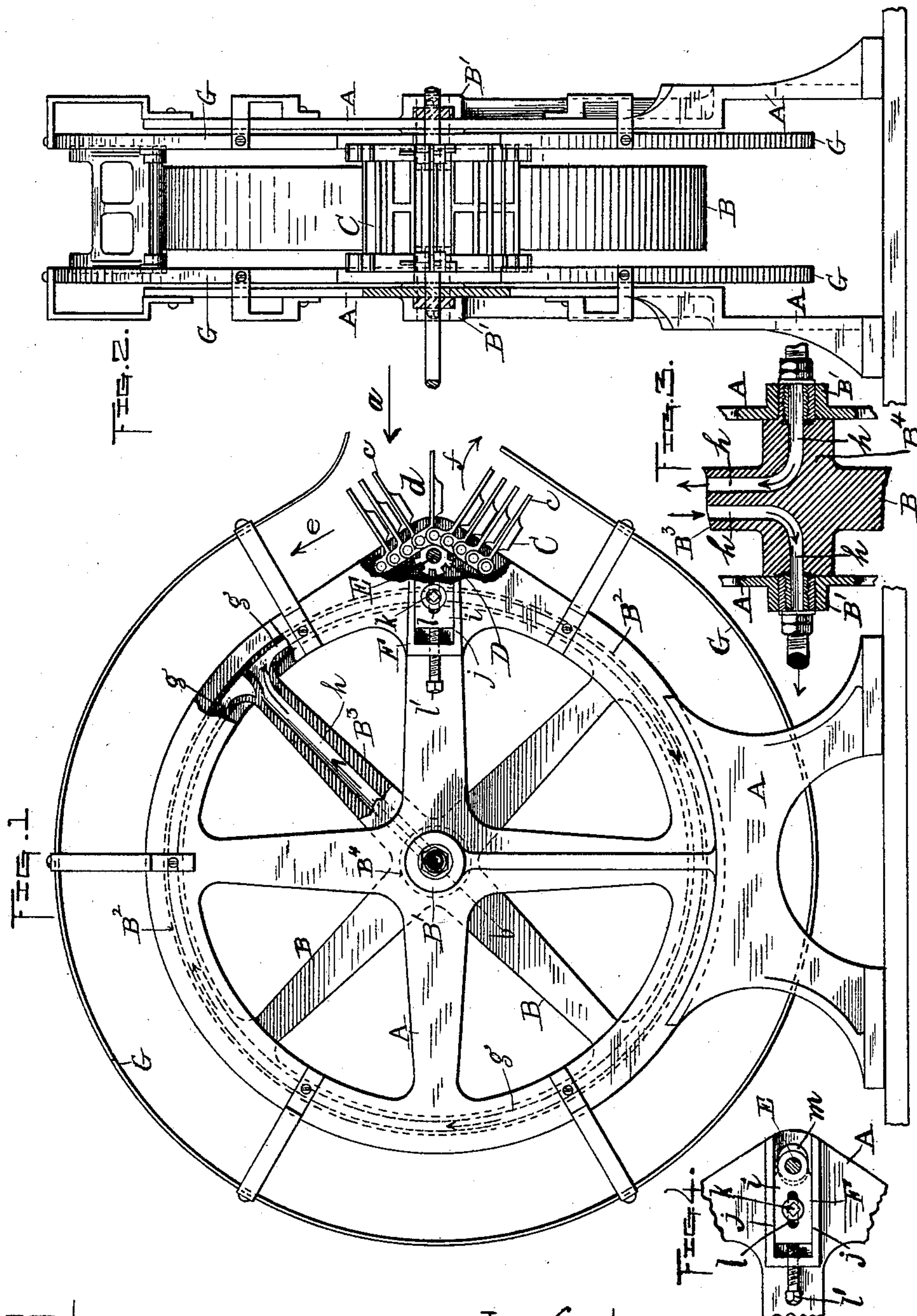


(No Model.)

A. A. RHEUTAN.
DRYING MECHANISM FOR ENVELOPE MACHINES.

No. 451,412.

Patented Apr. 28. 1891.



Witnesses

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ABRAM A. RHEUTAN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO WADE
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DRYING MECHANISM FOR ENVELOPE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 451,412, dated April 28, 1891.

Application filed June 12, 1890. Serial No. 355,140. (No model.)

To all whom it may concern:

Be it known that I, ABRAM A. RHEUTAN, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Drying Mechanism for Envelope-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a side view of so much of the drying mechanism of an envelope-machine as is necessary to illustrate my improvements thereon, portions thereof being broken away to more fully show my improvements. Fig. 2 is an edge view of the parts shown in Fig. 1, looking in the direction of arrow *a*. Fig. 3 is a central section through the hub of the drying-chain drum and supporting-frame thereof, taken on line *b*; and Fig. 4 is a detached plan view of part of the supporting-frame and my improved device for regulating the tension to "take up the wear" of the drying-chain.

My invention consists in the arrangement of an adjustable chain-driving sprocket-wheel close to the periphery of a large drum or wheel and the drying-chain fitted over said large drum or wheel and sprocket-wheel, as and for the purpose hereinafter set forth.

Following is a detailed description of my invention with reference to the accompanying drawings.

The parts marked A represent the supporting frames or standards of the device; B, the drum or wheel, preferably fitted to turn freely in suitable bearings B' thereon; C, part of the drying-chain; D, the sprocket-wheel secured on shaft E for driving said chain; F, the devices for adjusting said sprocket-wheel, as aforesaid, and G G the guards for retaining the envelopes in position as they are carried around in the chain, as usual, to dry the same.

For convenience in illustration only part of the fingers *c* of chain C—those where the envelopes enter and are discharged from said chain—are shown; but it will be understood that in practice they extend entirely around the whole length of the chain over the periphery of the drum or wheel B.

In operation the envelopes are designed to enter at *d*, (see Fig. 1,) then pass around in the direction indicated by arrow *e*, and discharged at *f*.

Heretofore a small carrying-wheel (as compared with the drum or wheel B) has been employed at the opposite end from the usual sprocket-wheel, thus necessitating the chain being carried off to some distance in order to obtain sufficient length of drying-surface to properly dry the envelopes during their transit from the point of entrance to the point of discharge to and from said chain. By said construction much valuable space is occupied by the drying mechanism, and to obviate this objection is one of the principal reasons for using a large wheel or drum. Another reason is that by said construction I am enabled to reduce the length of the chain considerably by constructing the drum so that steam heat may be conveniently applied close to the envelopes entirely around said chain. In this instance I accomplish said result by making the rim B² of the drum hollow, as indicated by full and dotted lines *g*, Fig. 1, and connect said annular space with steam ports or passages *h h*, extending radially through one of the arms B³ to the hub B⁴ of the drum and branching off in opposite directions through said hub, as indicated in Fig. 3, one serving as the inlet and the other as the outlet for the steam, as is indicated by the arrows in said figure. By thus passing steam through the drum it is obvious that the envelopes may be dried very quickly and thus admitting of a material reduction in the length of chain used.

The tension of the chain may be varied to take up the wear as it becomes worn and loose by use by means of the adjusting devices F, previously alluded to, which are in practice arranged one at each side of the chain sprocket-wheel, and each constructed in the following manner: A slide *i* is fitted to work longitudinally in a suitable guideway *j* on frame A, and is held in position in said guideway by a suitable holding screw and nut *k*, as shown in Figs. 1 and 4, the slide being provided with a longitudinal slot *l*, where the screw passes through to admit of said movement. The frames A are also slotted at *m*

for the same purpose where the sprocket-wheel shaft passes through to connect with the slides

5 *i*. The outer end of each slide acts as a bearing for the sprocket-wheel shaft E, and pressure is brought to bear on the inner end thereof by a screw *l'*, passed through a stationary bearing on the frame, having a threaded opening in which the screw fits.

10 By the above construction it is obvious that when the chain becomes slack on the drum it may be tightened up again by simply turning the screw *l'* forward against the slide *i*, so as to force the sprocket-wheel out the required distance to take up the slack in said

15 chain. The adjusting devices F may be arranged at any convenient point around the periphery of the drum, as desired, instead of on a horizontal line with the center thereof, as shown in the drawings, their position being governed by the construction of the envelope-machine to which my invention may be applied.

25 As the connections and mechanism for turning the sprocket-wheel shaft E are in practice of ordinary well-known construction and

no claim is made thereto, it is deemed unnecessary to illustrate or describe the same.

I am aware that the separate elements which constitute my invention are not broadly new, and I therefore limit said invention to the combination of said elements, as herein set forth, and pointed out in the claim. 30

What I claim as new and of my invention, and desire to secure by Letters Patent, is— 35

In an envelope-machine, the combination of the circular supporting standards or frames A A, the guards G G, extending around the same at a short distance therefrom, as shown in Fig. 1 of the drawings, and the wheel or drum B, arranged between said standards or frames A A and supported thereby, with the sprocket-wheel D, arranged close to the periphery of wheel or drum B, its adjustable bearings F F, secured to frames A, and the drying-chain C, adapted to fit over said wheel or drum and sprocket-wheel, substantially as and for the purpose set forth. 40 45

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