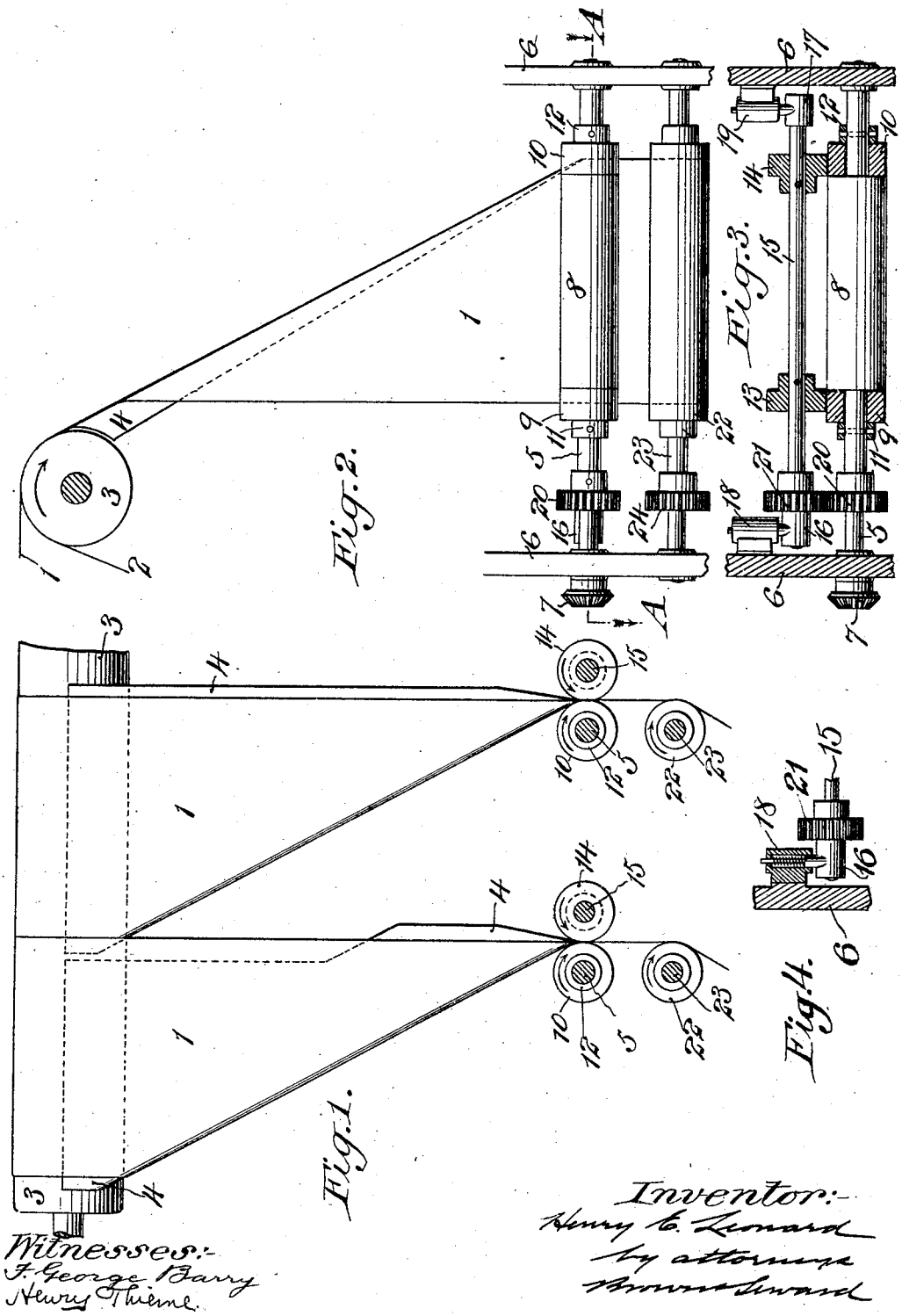
No. 857,948. PATENTED JUNE 25, 1907.

H. E. LEONARD.

WEB FOLDING MACHINE.

APPLICATION FILED MAY 8, 1906.



Witnesses:-
F. George Barry
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UNITED STATES PATENT OFFICE.

HENRY E. LEONARD, OF NEW YORK, N. Y., ASSIGNOR TO C. B. COTTRELL & SONS COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

WEB-FOLDING MACHINE.

No. 857,948. Specification of Letters Patent. Patented June 25, 1907.

Application filed May 8, 1906. Serial No. 315,818.

To all whom it may concern:

Be it known that I, HENRY E. LEONARD, a citizen of the United States, and a resident of the borough of Brooklyn, in the city and State of New York, have invented a new and useful Improvement in Web-Folding Machines, of which the following is a specification.

In web folders there has been a tendency of the lower web, viz: the web which engages the turner, to lag or fall behind when the webs are passing around the turner.

The object of this present invention is to provide means for effectually overcoming this tendency, said means being located at the point of the turner and comprising positively driven spring pressed pulleys for driving the lower web coacting with loose pulleys on the shaft which carries the roll which drives the upper web.

In the accompanying drawings, Figure 1 is a detail view showing so much of a web folding machine as will give a clear idea of my invention, Fig. 2 is a view of the same taken at right angles to Fig. 1, Fig. 3 is a section taken in the plane of the line A—A of Fig. 2, looking in the direction of the arrows, and Fig. 4 is a detail section showing one of the spring-pressed bearings.

Upper and lower webs 1 and 2 respectively pass over the slitting roller 3. Two single turners 4, 4, are shown located adjacent to the slitting roller 3 around each of which turners the upper and lower webs pass.

At the point of each turner 4, there is located means for preventing the lower web from lagging or falling behind as follows. A shaft 5 is mounted to rotate in suitable bearings in the framing 6, which shaft has a bevel gear 7 fixed thereto through which the shaft is driven at the desired speed from some suitable source of power not shown herein. This shaft 5 has fixed thereto a roll 8 which engages and drives the upper web 1. The side edges of the upper and lower webs project beyond the ends of the roll 8.

The shaft 5 has two pulleys 9, 10, loosely mounted thereon and held in position adjacent to the ends of the roll 8, by retaining collars 11, 12. The lower web 2 as it leaves the turner, is engaged and driven by two pulleys 13, 14, fixed to a shaft 15 mounted in movable spring pressed bearings 16, 17, supported by the brackets 18, 19, fixed to the framing 6. Rotary motion at the desired speed is imparted to the shaft 15 from the shaft 5, through intermeshing spur gears 20, 21.

The two driving pulleys 13, 14, which engage the lower web 2, serve to press the side edges of the webs against the loose pulleys 9, 10, thus causing the webs to travel in unison.

A guide roll 22 for directing the upper and lower webs as required, is fixed to a shaft 23 mounted to rotate in suitable bearings in the framing 6, which shaft 23 has a spur gear 24 which may be driven at the desired speed from any suitable source of power, not shown herein.

While I have shown two turners and their web driving means herein, it is to be understood that the number of turners may be varied as desired and that various changes might be made in the construction, form and arangement of the various parts without departing from the spirit and scope of my invention; hence I do not wish to confine myself strictly to the structure herein set forth, but

What I claim is:

1. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a driving roll for engaging one web, driving pulleys for engaging the other web and loose pulleys coacting with the driving pulleys.

2. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a driving roll for engaging the upper web, driving pulleys for engaging the lower web and loose pulleys coacting with the driving pulleys.

3. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a shaft having a driving roll for engaging one web, a shaft having driving pulleys for engaging the other web and loose pulleys on the driving roll shaft coacting with the driving pulleys.

4. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a shaft having a driving roll for engaging the upper web, a shaft having driving pulleys for engaging the lower

web and loose pulleys on the driving roll shaft coacting with the driving pulleys.

5. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a driving roll for engaging one web, spring pressed driving pulleys for engaging the other web and loose pulleys coacting with the spring pressed driving pulleys.

6. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a driving roll for engaging the upper web, spring pressed driving pulleys for engaging the lower web and loose pulleys coacting with the spring pressed driving pulleys.

7. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a shaft having a driving roll for engaging one web, a shaft having driving pulleys for engaging the other web, movable spring pressed bearings for the driving pulley shaft and loose pulleys on the driving roll shaft coacting with the driving pulleys.

8. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a shaft having a driving roll for engaging the upper web, a shaft having driving pulleys for engaging the lower web, movable spring pressed bearings for the driving pulley shaft and loose pulleys on the driving roll shaft coacting with the driving pulleys.

9. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a shaft having a driving roll for engaging one web, a shaft having driving pulleys for engaging the other web, a driving connection between the two shafts and loose pulleys on the driving roll shaft coacting with the driving pulleys.

10. In combination, a turner around which upper and lower webs are passed and a device arranged to drive both of the webs in unison comprising a shaft having a driving roll for engaging the upper web, a shaft having driving pulleys for engaging the lower web, a driving connection between the two shafts and loose pulleys on the driving roll shaft coacting with the driving pulleys.

In testimony, that I claim the foregoing as my invention I have signed my name in presence of two witnesses, this 21st day of April 1906.

HENRY E. LEONARD.

Witnesses:
F. GEORGE BARRY,
FREDK. HAYNES.