

No. 673,182.

Patented Apr. 30, 1901.

W. TURNER.

HAWKING MACHINE.

(Application filed Jan. 14, 1901.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

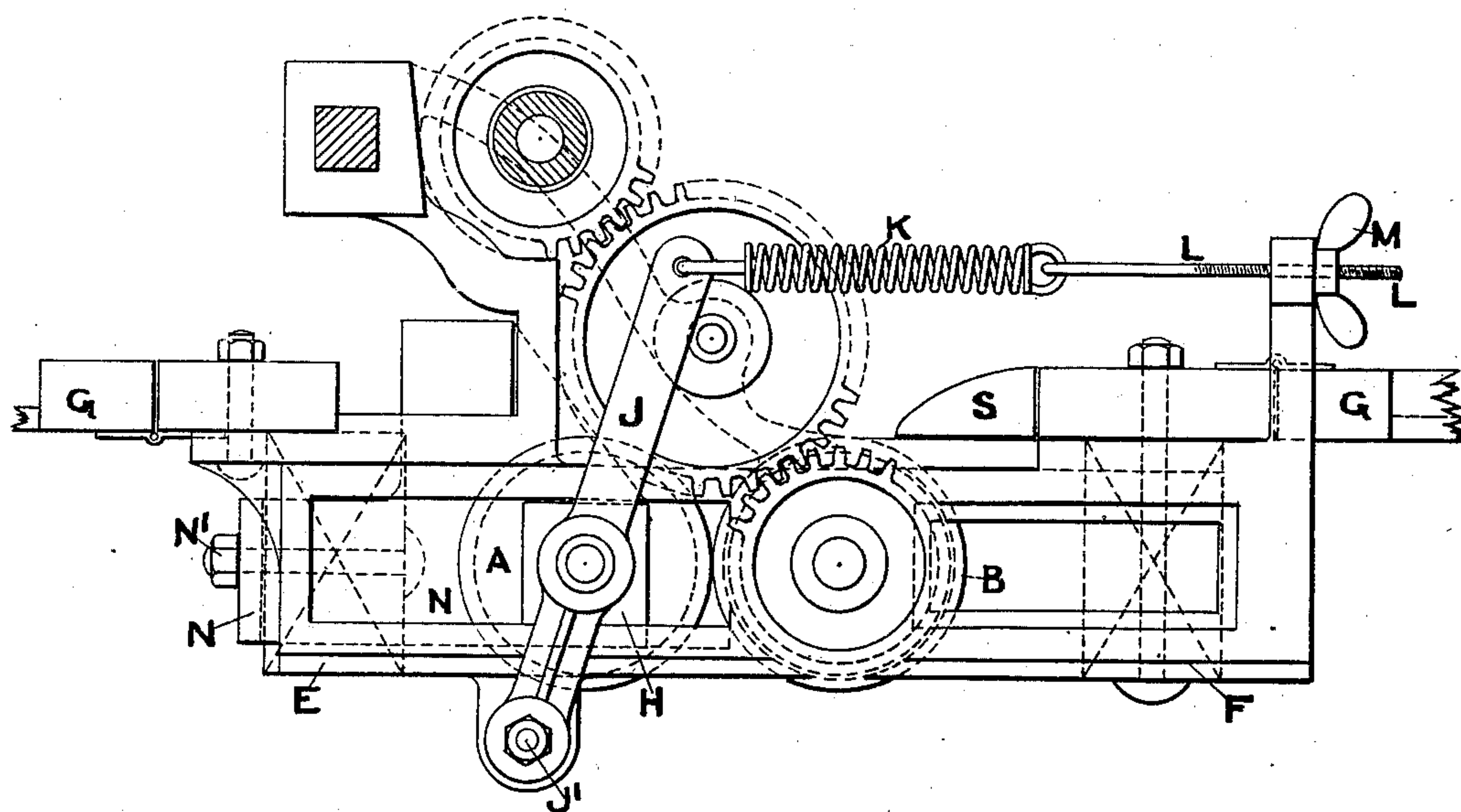
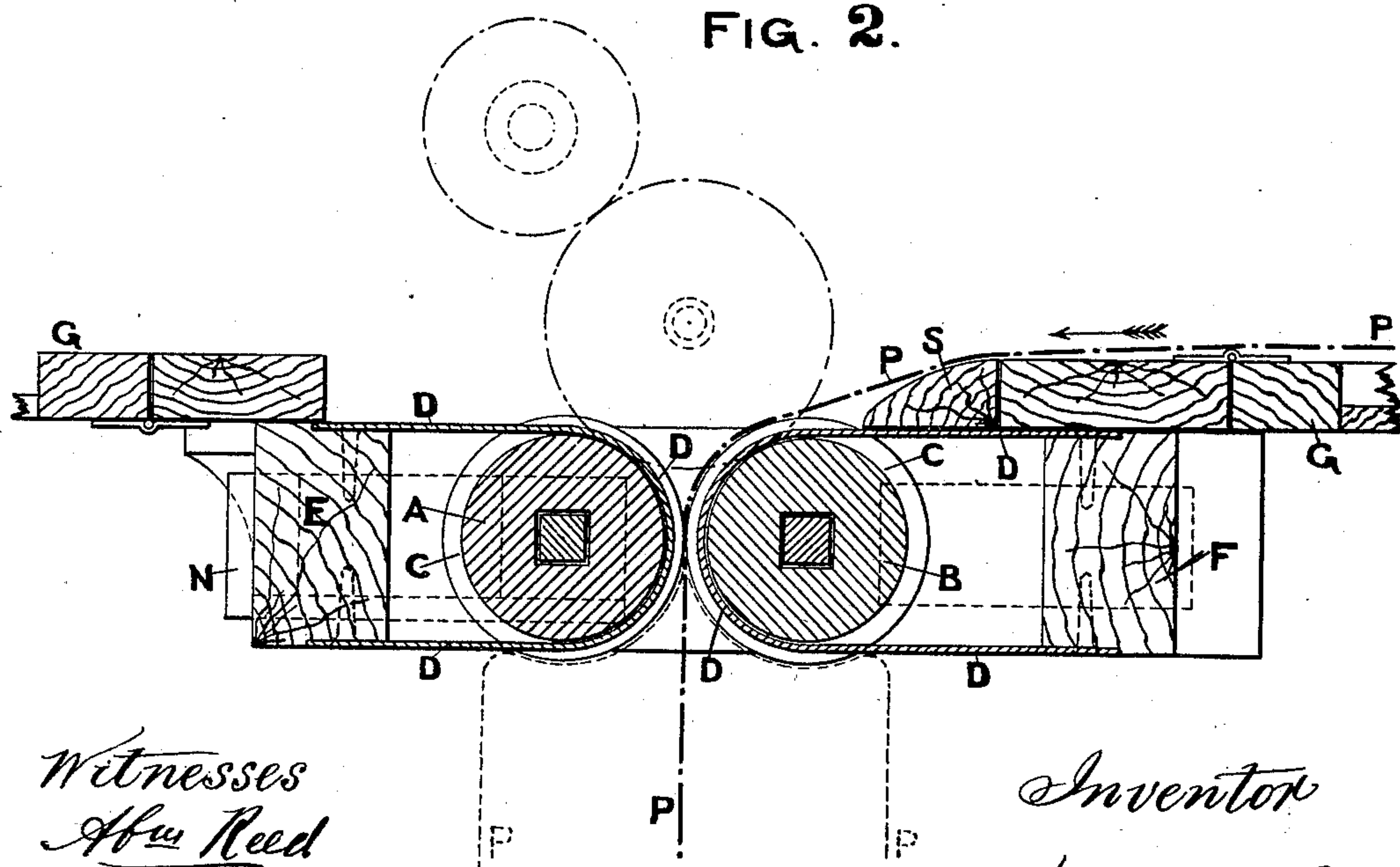


FIG. 2.



Witnesses
Abu Reed
William Dean,

Inventor
Walter Turner.

No. 673,182.

Patented Apr. 30, 1901.

W. TURNER.
HAWKING MACHINE.

(Application filed Jan. 14, 1901.)

(No Model.)

2 Sheets—Sheet 2.

FIG. 3.

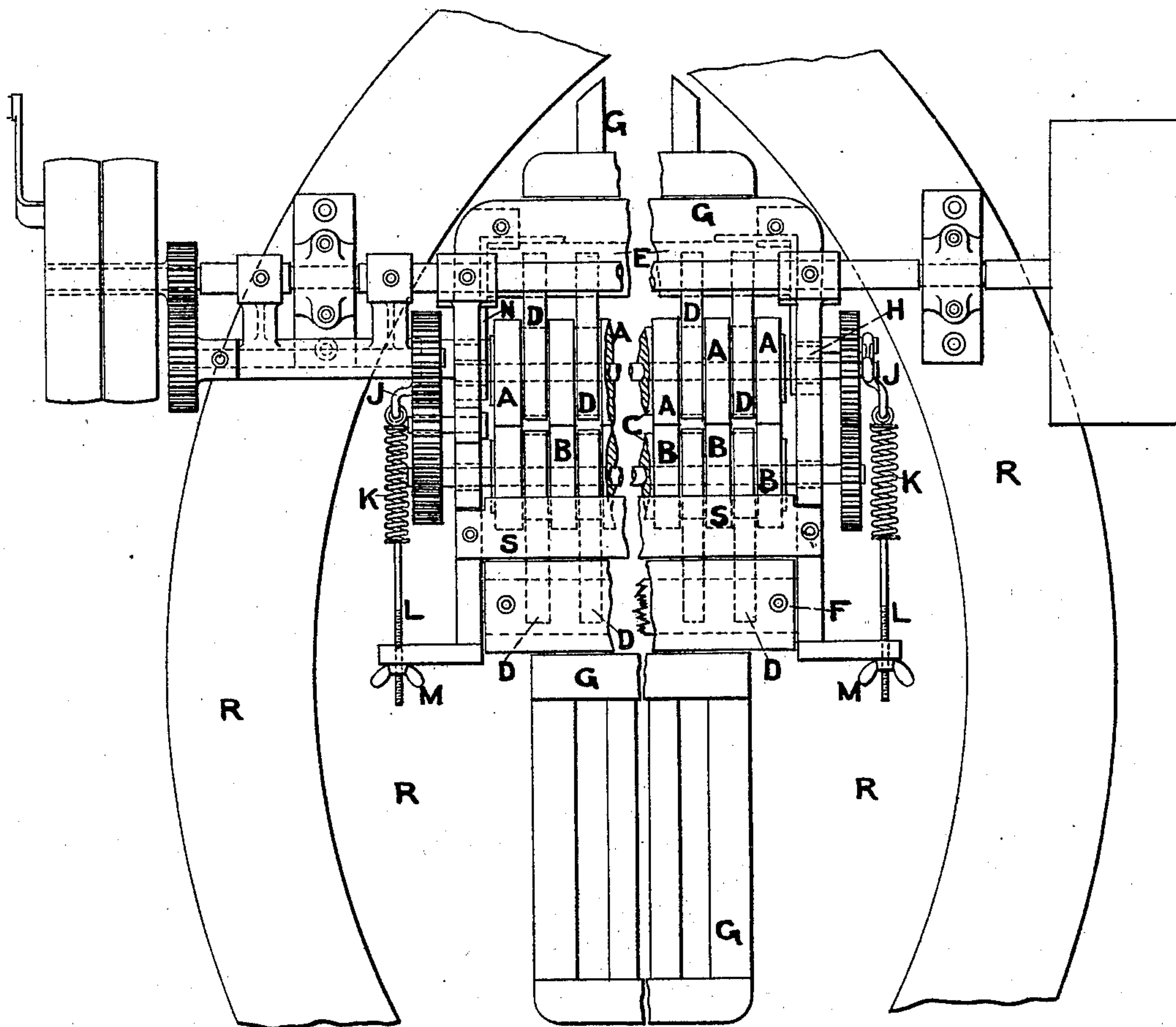
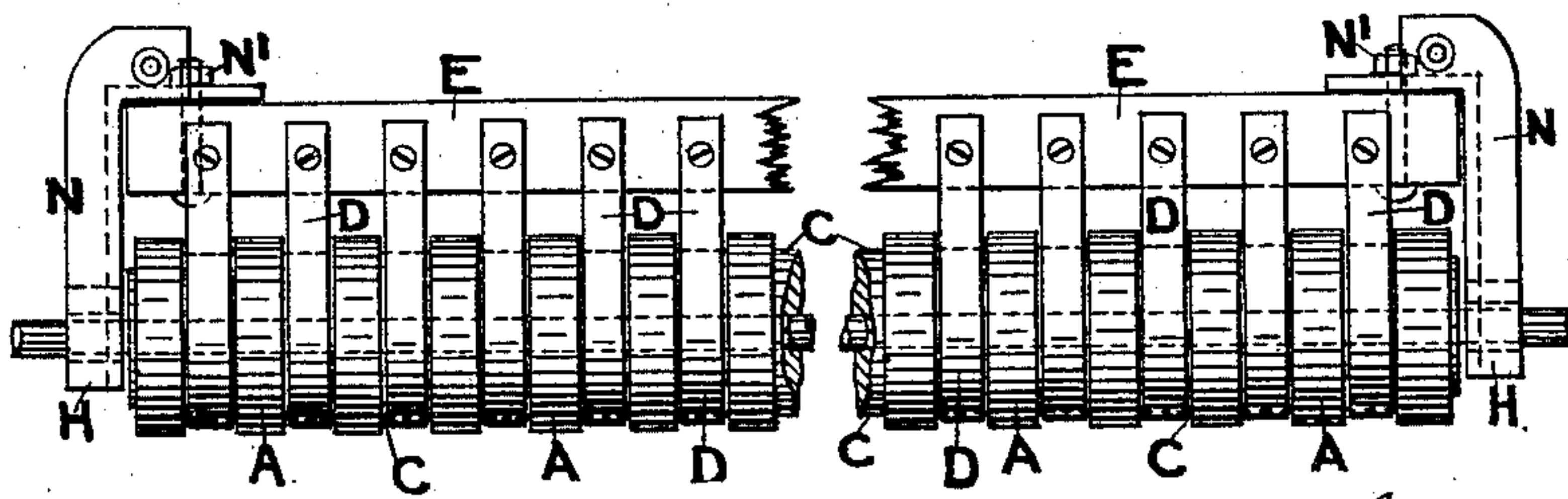


FIG. 4.



Witnesses
Abner Reed
William Dean

Inventor
Walter Turner

UNITED STATES PATENT OFFICE.

WALTER TURNER, OF HALIFAX, ENGLAND.

HAWKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 673,182, dated April 30, 1901.

Application filed January 14, 1901. Serial No. 43,277. (No model.)

To all whom it may concern:

Be it known that I, WALTER TURNER, a subject of the Queen of Great Britain, residing at Halifax, in the county of York, England, have invented certain new and useful Improvements in Hawking-Machines of Indigo-Dye Vats, of which the following is a specification.

This invention relates to hawking-machines employed in indigo-dye vats; and its object is to prevent damage to pieces passing through such hawking-machine when the latter is submerged in the liquor during the process of dyeing. This damage takes place from several causes, but particularly when the ordinary strippers now employed for stripping the piece from the rollers do not bear against the surface of the rollers evenly across their whole width. Such uneven contact is often occasioned by wear of the stripper or the surface of the roller itself at some particular part or from wear of the roller necks or bearings, or the edge of the stripper may be turned up or otherwise damaged, or some solid substance may lodge between the stripper and roller in such a manner as to prevent the stripper acting upon the piece at that part. The result is that the piece becomes wedged between the stripper and the roller and on being removed from the vat is very often found to be seriously damaged. Detection of the irregularity of the action of the strippers is impossible on account of their submersion in the dye liquor during the process of dyeing. With my improved strippers it is impossible for the piece to become damaged from the above causes. The piece upon passing through the rollers is automatically stripped off the same and falls to the bottom of the vat, where it is laid in folds and again passed over the scray-lags and between the rollers in the usual way. Such positive and even stripping of the rollers causes a better folding or laying of the piece within the vat, with a corresponding effect upon the continuous passage of the piece between the rollers and through the liquor.

In the drawings, Figure 1 is an end elevation of driving end of a hawking-machine employed in indigo-dye vats, with bracket for supporting same upon the side of vat removed. Fig. 2 is a similar view to Fig. 1, in section, with my improvements applied. Fig.

3 is a plan view of parts of a hawking-machine with my improvements applied, mounted upon an indigo-dye vat. Fig. 4 is a plan of my improved roller and strippers employed in hawking-machines of indigo-dye vats.

In constructing the fast and loose rollers A B of a hawking-machine I form the same with a series of annular grooves C of a suitable width and at regular distances apart. A corresponding number of metal bands or strippers D are attached to the cross beams or bars E F of the scray-lags G and passed around the nipping side of the said rollers A B within the aforesaid grooves C and are again attached to the opposite side of the cross beams or bars aforesaid. The loose roller A is mounted in sliding bearings H and is kept in contact with the roller B in fixed bearings by means of levers J, pivoted at J', and springs K, the pressure or nip being adjusted or regulated by screwed rod L and nut or thumb-screw M. I also attach the cross-beam E of the back scray-lag to the slide N, carrying the loose roller-bearings H, by means of bolts N' or the like, so that upon the roller A being moved away from roller B from some cause or other the strippers D within the grooves C of such roller are also moved simultaneously in a corresponding degree and so do not interfere with the feed action of such rollers or the passage of the cloth or the insertion of a fresh piece to be dyed. Both strippers and roller move simultaneously either backward or forward for the purposes before described.

The strippers D are so placed within the annular grooves of the rollers that while being stationary themselves they offer no impediment to the free revolution of the latter when acted upon by the roller in fixed bearings or to the passage of the cloth during the operation of dyeing.

The action is as follows: Upon the piece P to be dyed being passed between the rollers A B and the ends sewed together to make it endless the hawking-machine is immersed within the dye liquor in the vat R and set in motion, the action of the rollers A B upon the piece being such as to continually keep the piece traveling through the liquor. In passing between the rollers, however, it very often adheres to either one or the other and is then brought by such roller into contact

with the strippers D, which remove or strip the same from the roller in the manner shown in dotted lines at Fig. 2, when it falls and is folded or laid and again passed between the rollers without possibility of damage. By this construction of and arrangement of strippers it is impossible for the piece to be damaged by the strippers in its passage between the rollers. There is no possibility of the strippers getting out of order. There is no grinding of the strippers against the rollers, the effect of which will be obvious, and the machine may be used with confidence by the workman and at a great saving to the proprietor. I also preferably add an additional cross-bar S to the front scray-lag, having a beveled or rounded surface placed so as to deliver the piece P directly to the nip of the rollers and prevent the said piece from being interfered with or retarded by the upper parts of the strippers in its passage over the front scray-lag to the said rollers.

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

1. The combination, with a pair of nipping-rollers, one of the said rollers being provided

with a series of circumferential grooves, of a series of strippers arranged in the said grooves between the pair of rollers, substantially as set forth.

2. The combination, with a pair of nipping-rollers, one of the said rollers being provided with a series of circumferential grooves, and a scray-lag behind the said grooved roller; of a series of strippers formed of loops inserted in the said grooves between the rollers and having their end portions secured to the said scray-lag, substantially as set forth.

3. The combination, with a pair of nipping-rollers each provided with a series of circumferential grooves, and scray-lags arranged behind the said rollers, one of the said rollers and its scray-lag being slidable with respect to the other roller; of strippers arranged in the said grooves and secured to the scray-lags, substantially as set forth.

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

WALTER TURNER.

Witnesses:

ABM. REED,
WILLIAM DEAN.