

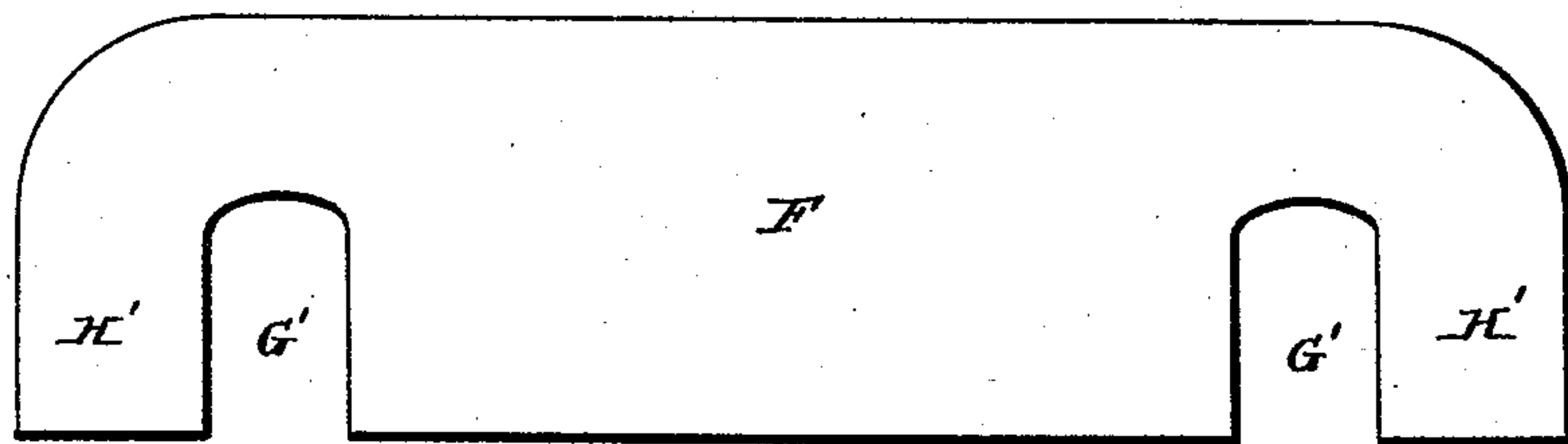
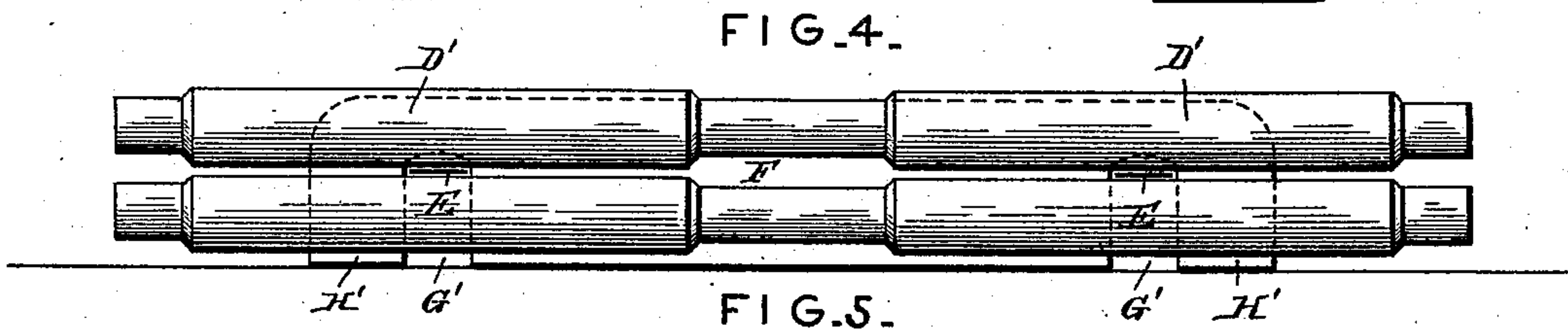
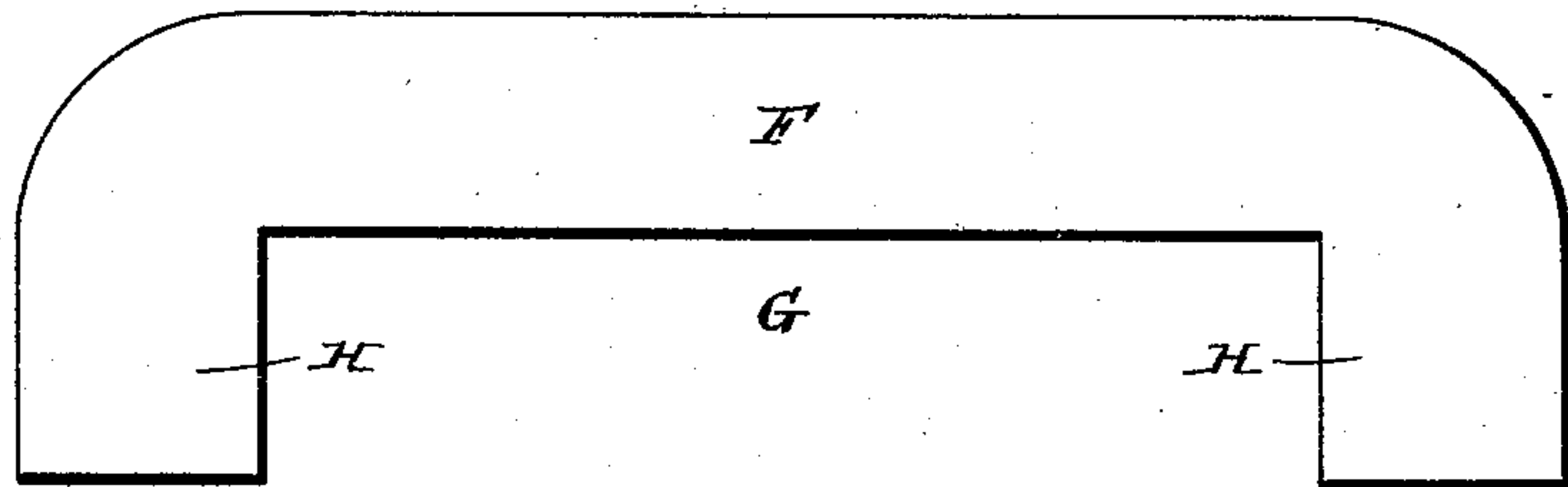
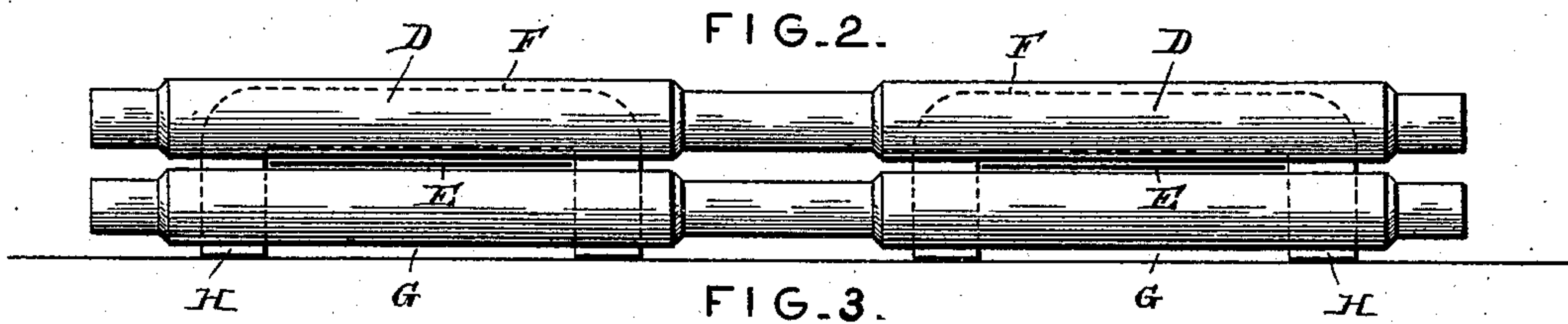
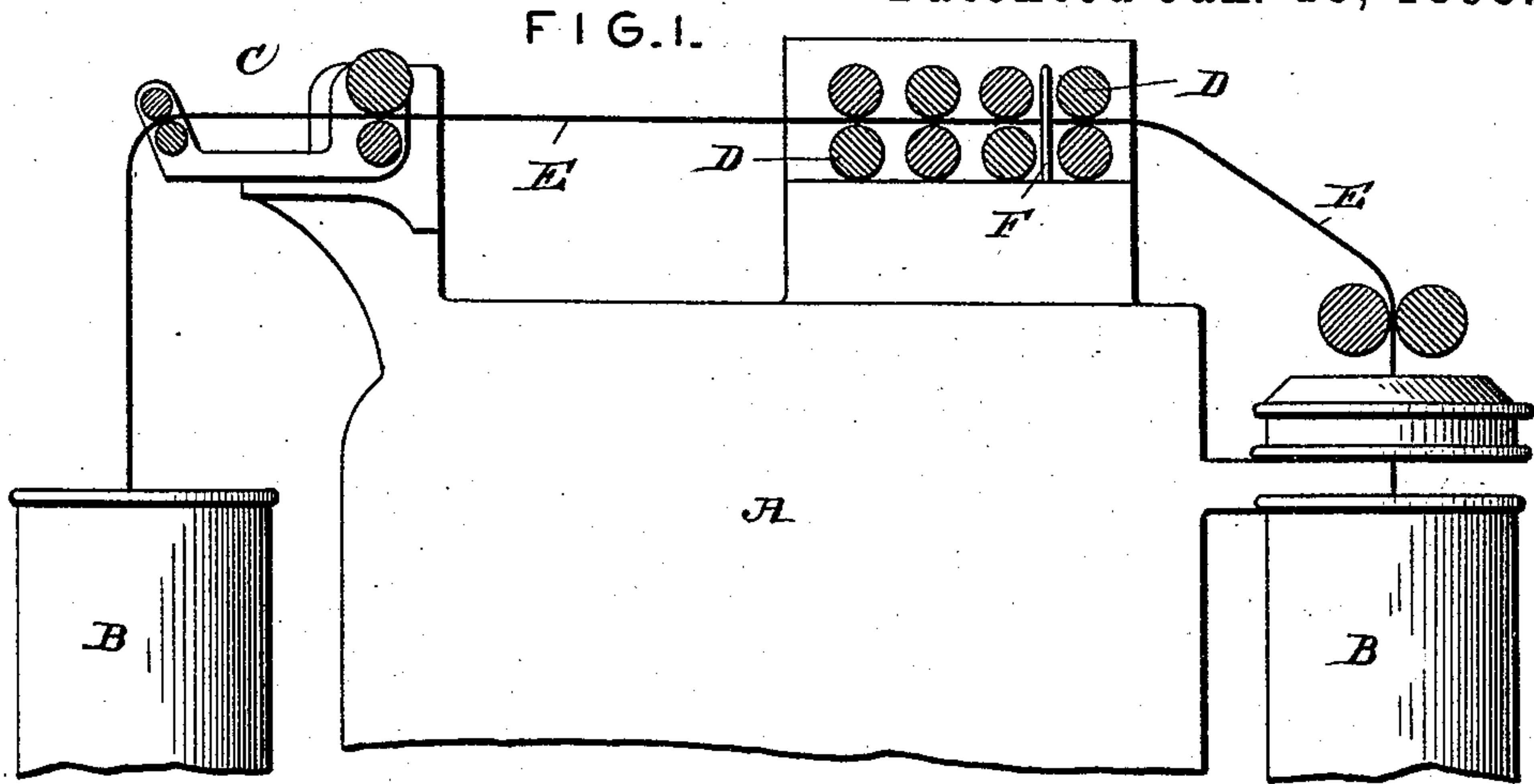
(No Model.)

G. TOWNSEND.

SELVAGE PROTECTOR FOR COTTON MILLING MACHINERY.

No. 532,611.

Patented Jan. 15, 1895.



Witnesses

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# UNITED STATES PATENT OFFICE.

GEORGE TOWNSEND, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO WILLIAM ARMITAGE AND HARTLEY SPENCER, OF SAME PLACE.

## SELVAGE-PROTECTOR FOR COTTON-MILLING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 532,611, dated January 15, 1895.

Application filed January 31, 1894. Serial No. 498,667. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE TOWNSEND, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and useful Selvage-Protector for Cotton-Milling Machines, of which the following is a specification.

This invention relates to an improvement in selvage protectors for cotton milling machinery, and is adapted for use on ribbon doublers, ribbon-lappers, drawing frames, and slubbing machines.

In the manufacture of cotton into yarn, the object of all the machinery used in the different stages up to the time it receives the final twist, is to straighten out the fiber, and the ribbon-doubler, the ribbon-lapper, the drawing frame, and the slubbing machine, each perform a part in this straightening of the fiber providing means for successively drawing the "sliver" of cotton. Now it is well known that there is always more or less waste caused in the drawing process of the several enumerated machines by the scattered edges or selvages of the sliver catching on the drawing rollers, which "lick up" the sliver, also causing bunches to form between the pairs of rolls and consequent uneven work.

The object of the present invention, therefore, is to obviate these difficulties in the process of straightening out or drawing the sliver of fibrous material, and is intended to gather and turn in the selvage of the sliver, making a firm smooth selvage and straightening the fiber on the same, and in this use the protector not only provides for making an even sliver, but at the same time saves wasting, prevents the rollers from "licking up," saves "roller laps," and provides for the free and unimpeded running of the machine as well in warm as in cold weather.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings:—Figure 1 is a detail longitudinal sectional view of the

main parts of a drawing frame or head showing one of my improved selvage protectors properly positioned. Fig. 2 is a detail elevation of a pair of drawing rolls used in a drawing frame, showing in dotted lines the position of the protectors at one side of the same. Fig. 3 is an enlarged detail elevation of the ordinary form of the protector. Fig. 4 is a similar view to Fig. 2, showing the form of protector as used in connection with the drawing rolls of a slubbing machine. Fig. 5 is a view similar to Fig. 3, showing the form of the protector as used for slubbing machines.

Referring to the accompanying drawings, A represents an ordinary drawing frame at each side of which are located the usual sliver cans B, one of which is ordinarily termed the feeding can, while the other is termed the delivering can, and the said drawing frame carries the usual feeding device C, and separated aligned pairs of drawing rolls D, each successive pair of which moves slightly faster than the last pair to secure the necessary "draw" on the sliver between each pair of rolls. These parts of the drawing frame are those ordinarily in use and are merely shown in a general way to illustrate the adaptation of my invention, and to further elucidate the use of my invention I have shown the sliver of cotton E, as it passes from one can to the other through the drawing devices of the machine.

Between two or more pairs of the drawing rolls D, as may be found expedient or desirable, the present invention contemplates the use of a self-adjusting protector plate F. The protector plate F, is made of wood, gutta-percha or any other suitable material and varies in size according to the particular machine on which the same is used, and said plate is provided in its lower edge with the inverted U-shaped sliver notch G, formed between the parallel downturned ends H, of the plate, such construction of plate being that used in connection with the ribbon-doubler machines, the ribbon-lap machines, and the drawing frame, in connection with which latter machine the same is illustrated in the drawings.

The construction of selvage protector plate



F, just described may be comprised in the term U-shaped, and when adapted for use is inverted so as to properly straddle the sliver as it passes between the pairs of drawing rolls on whatever machine the same is used. As clearly illustrated in the drawings, the inverted U-shaped plate is simply placed astride of the sliver between the drawing rolls, without other support than the portion of the machine frame directly beneath the drawing rolls, and from this adaptation it will be seen that the protector is entirely independent of the machines with which it is used, and can be placed in position or taken out at will, since it simply rests on the portion of the machine frame below the rolls. As thus arranged, the sliver of cotton is caused to pass through the sliver notch between the notch walls or downturned ends H, so that the selvage of the sliver is gathered a little closer and turned in, making a firm smooth selvage and causing a straightening out of the fiber on the same.

Inasmuch as the selvage protector F, is not fastened to the machine but rests lightly on the under clearer ordinarily below the drawing rolls, the same will readily yield to accommodate any lateral or transverse motion of the sliver as it passes between the drawing rolls, such motion being common to most of the machines hereinbefore referred to, and stationary protectors would be of no use on machines with a side motion given to the sliver passing therethrough.

In adapting the protector to the rolls D', of a slubbing machine, the construction of the plate is modified so as to cover both portions of the rolls, as is clearly shown in one of the figures of the drawings, and in this case the protector plate is provided in one edge with separated sliver notches G', confined between the notch walls H', which corresponds in every particular to the other construction of the plate with the exception that the notches are necessarily narrow, and two of such notches are cut in the plate so as to adapt the same for use on slubbing machines, the operation and advantages of the protector being the same in this connection as in connection with the other three machines referred to. At this point further attention is directed to the importance of loosely mounting the protector plate between the drawing rolls so that the same will be free to slide back and forth to accommodate itself to the lateral or transverse motion of the sliver. By reason of the self-adjustment of the protector plate, it will be obvious that the said plate does not act in the capacity of a guide, but is itself guided back and forth by the lateral motion of the sliver

of cotton so that the function that the protector plate performs is to turn in the stray fibers of the sliver to make a smooth and even selvage without materially condensing the cotton. It is well known that if the stray fibers of the slivers are not gathered in with the body of the sliver, the selvages are necessarily ragged and the cotton licks up on the top rolls and gathers in bunches, thereby causing great waste and also injuring the rolls. While accomplishing this important function the protector plate can be easily taken out from between the rolls and again placed in position without breaking the sliver, and besides this, the protector plate described, on account of its free play or self-adjustment, is especially useful in connection with milling machinery in which the sliver of cotton has a lateral or transverse motion. In machinery of the character noted, the rolls are injured by a continuous passage of the cotton in one place, and since the sliver of cotton is not as wide as the surface of the rolls, any contrivance that would keep the sliver in one place, as a stationary guide would do, would necessarily spoil what good effect the guide might otherwise have, since the wear in one place on the rolls would render it necessary to repeatedly renew the coverings of the rolls, which is not so often required where the wear is evenly distributed over the whole surface of the rolls by giving a transverse or lateral motion to the sliver.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

A selvage protector for cotton machinery, consisting of a flat body provided with an inverted U-shaped sliver notch in its under edge and adapted to be loosely interposed in an upright position between closely adjacent parts of the drawing rolls of such machinery and astride of the sliver passing therethrough, said protector body being unattached to the machine and free to slide on its lower edge to accommodate itself to the lateral or transverse motion of the sliver, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE TOWNSEND.

Witnesses:

HENRY S. HUTCHINSON,  
FREDK. D. STETSON.