

Lister & Warburton.

Spinning Mach.

N^o 18,461.

Patented Oct. 20, 1857

Fig. 1.

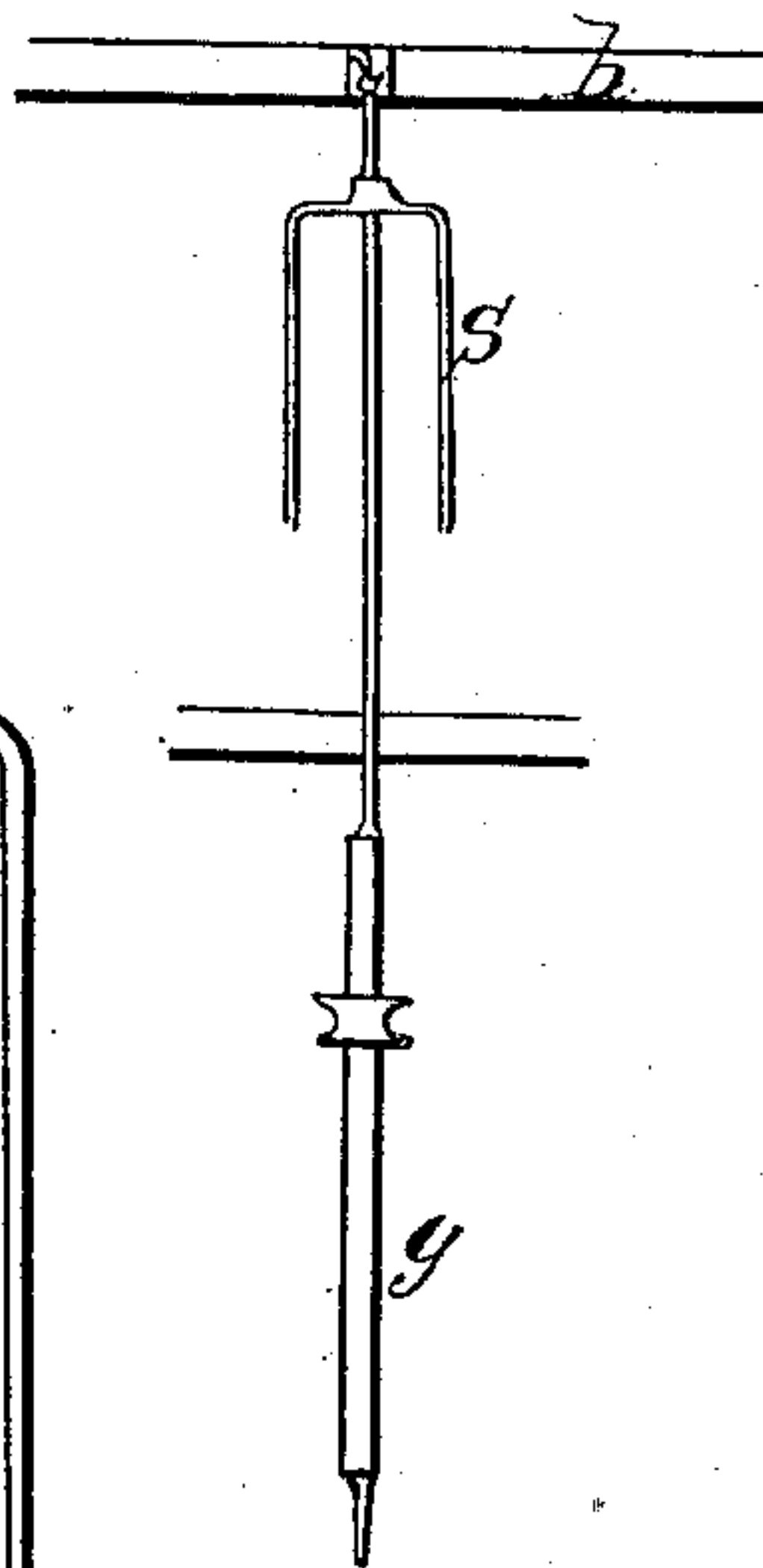


Fig. 3.

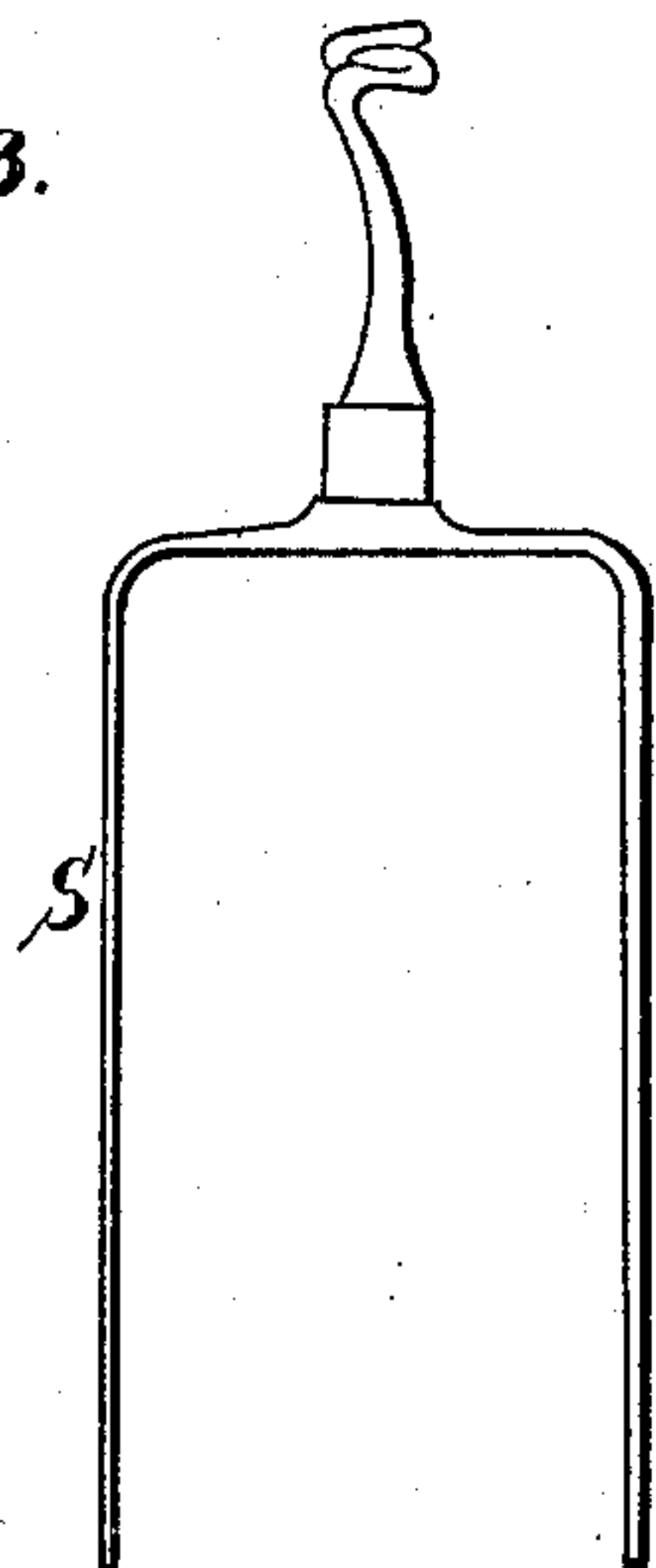
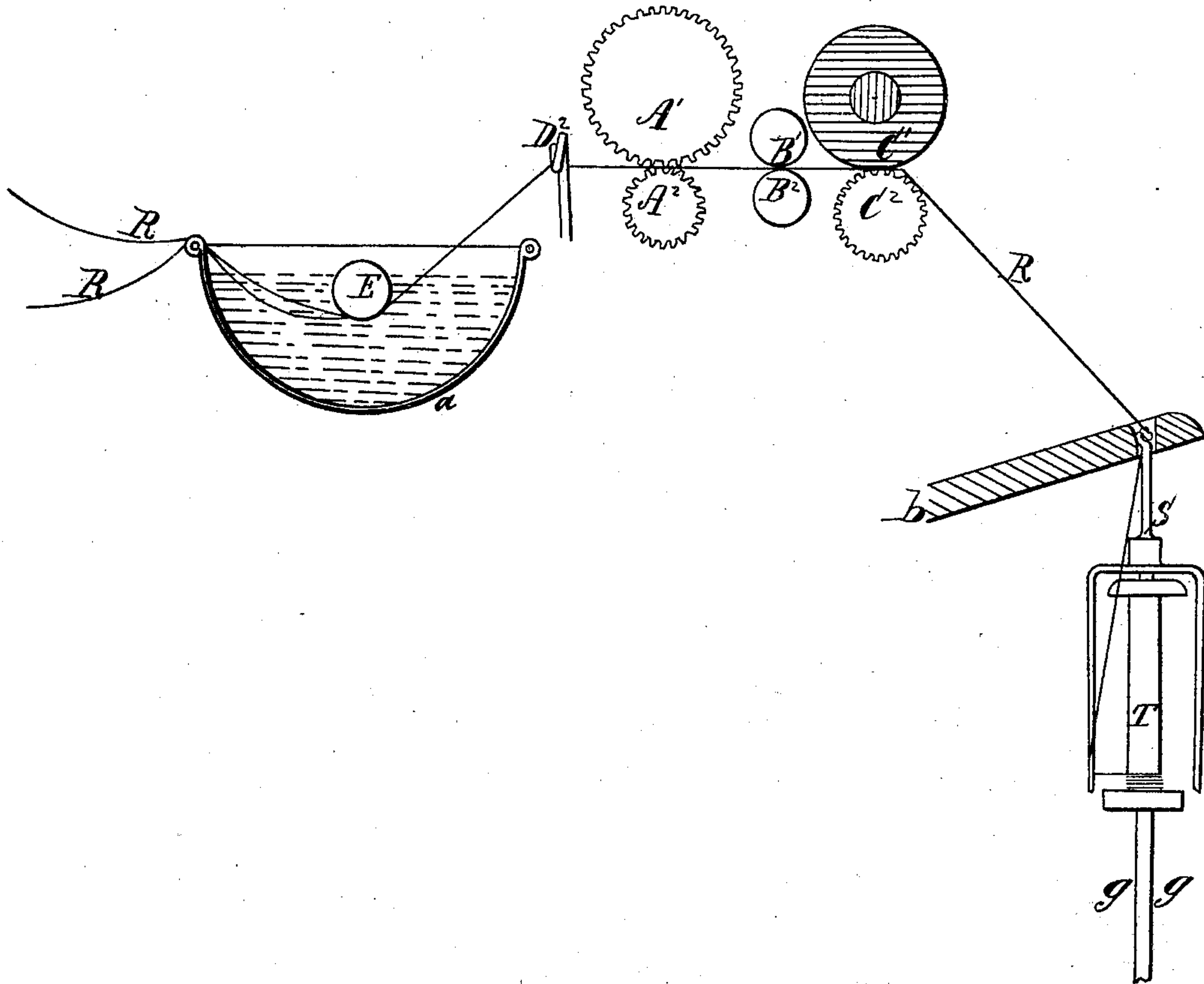


Fig. 2.



UNITED STATES PATENT OFFICE.

SAMUEL C. LISTER AND JAMES WARBURTON, OF BRADFORD, ENGLAND.

MANUFACTURE OF COTTON YARN.

Specification of Letters Patent No. 18,461, dated October 20, 1857.

To all whom it may concern:

Be it known that we, SAMUEL CUNLIFFE LISTER, of Bradford, and JAMES WARBURTON, of Addingham, both in the county of York, England, subjects of the Queen of Great Britain, have invented or discovered a new and useful Improvement in Spinning or Manufacturing Yarn from Cotton; and we, the said SAMUEL CUNLIFFE LISTER and JAMES WARBURTON, do hereby declare the nature of our said invention and the manner in which the same is to be performed are fully described and ascertained in and by the following statement thereof, reference being had to the accompanying drawing and to the figures and letters marked thereon, Figure 2 of such drawing exhibiting a sectional view of the mechanism employed in carrying out our improved process.

Our invention has for its object the drawing and spinning of cotton while it is in a wet state. We have discovered by a series of experiments that cotton may be advantageously drawn and spun under such circumstances and that stronger and finer or higher numbers of cotton yarn may be so manufactured than is the case when the cotton is dry. For this purpose the fibrous material having been properly carded and prepared or rendered fit for being drawn and spun as heretofore, is next to be wet and drawn and spun while it is wet. In order to accomplish this we may use a trough *a* containing water which we prefer to be warmed or in a heated state. Through the trough the roving *R* is to be passed a small tin roller *E* or other guide being employed if necessary to maintain it under the surface of the water. From thence the roving *R* should be led through a guide wire *D*² to and between fluted brass or metallic rollers *A'* *A*² and thence between rollers *B'* *B*² which act as carrying rollers there being a little draft allowed betwixt *B'* *B*² and *A'* *A*². From thence it may extend between another pair of rollers *C'*, *C*², the upper one *C'* being by preference made of gutta percha or leather fixed on an iron shaft while the lower roller *C*² is constructed of metal and fluted. The draft betwixt the rollers *C'* *C*² and *B'* *B*² may be varied according to the nature

of the cotton but the like cotton when spun wet will allow of more draft than when spun dry. In case the water or liquid is in a heated state at the time of its use the draft of the cotton will be facilitated and the yarn rendered finer and smoother than is the case when the water is employed at common atmospheric temperature. From the draft rollers the roving is led to the flier *S* and by the same when in motion spun and wound on the bobbin *T*. The upper part of the flier may be made with a twisted or "tweedled" top and such arranged so as to revolve in the upper rail *b*. Under most circumstances this arrangement of the head of the spindle *S'* will be productive of advantages in the construction and use of the spindle and bobbin.

Fig. 1 shows a separate view of the spindle and flier complete, while Fig. 3 is a side view of the flier.

We would remark that although we have been thus particular in describing the arrangement of mechanical parts preferred to be used by us in carrying out our invention at the same time we would remark that we do not confine ourselves strictly thereto as these details of construction and operation may be somewhat varied without changing the principle of our process.

Having thus described the nature of our invention and the manner of performing the same what we claim is—

1. An improvement in the process of manufacturing cotton yarn the same consisting in wetting the cotton roving previous to its being drawn and in drawing and spinning it while it is in a wet state such being productive of advantages as stated.

2. And we also claim in the process of impregnating the roving with water or liquid and drawing and spinning it while wet, the employment of heated water or heating the water as explained whereby advantages are gained as set forth.

S. C. LISTER.
J. WARBURTON.

Witnesses:

JNO. HENRY WADE,
THOS. BINNS.