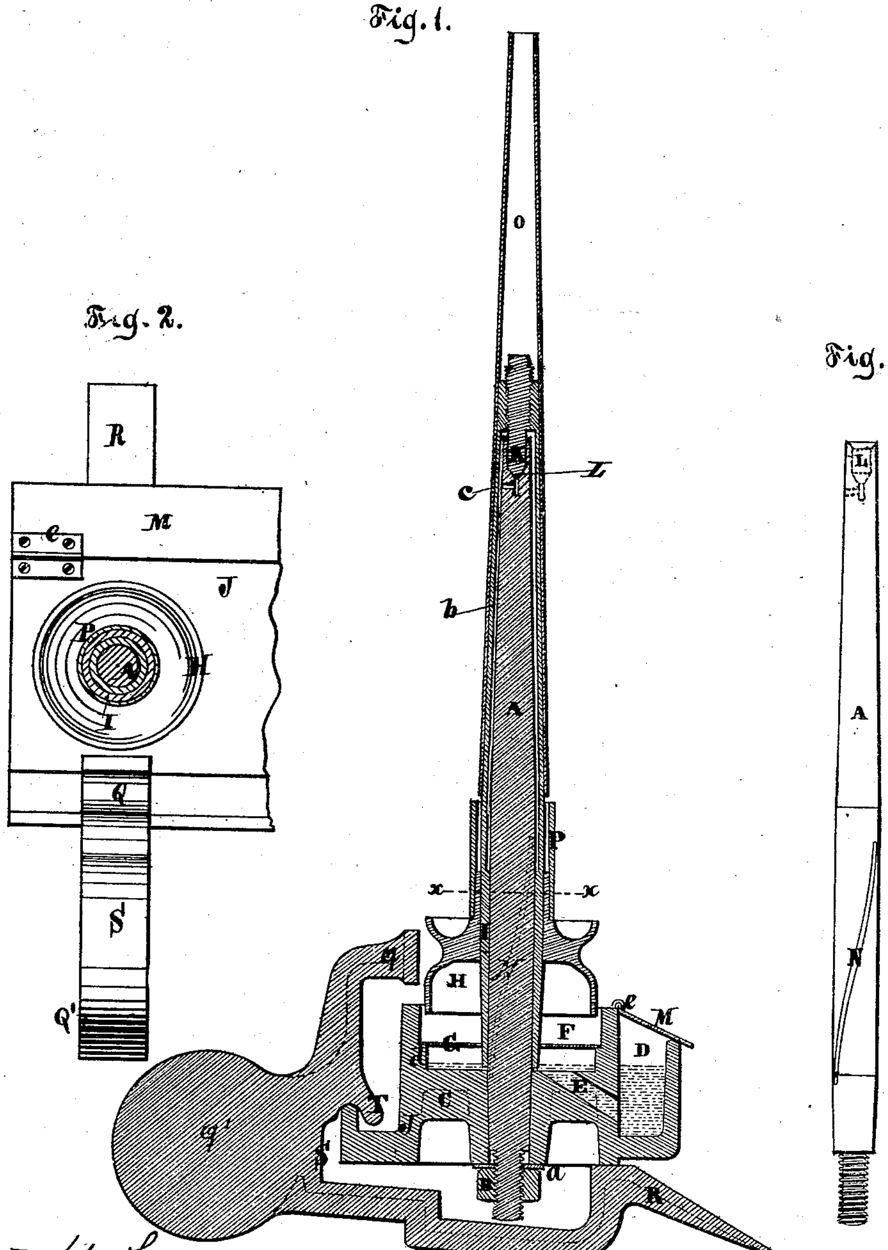
C. MARTIN.

Wool-Spinning Machinery.

No. 168,512. Patented Oct. 5, 1875.

Fig. 1. Fig. 2. Fig. 3.



Witnesses

Inventor.

UNITED STATES PATENT OFFICE.

CÉLESTIN MARTIN, OF VERVIERS, BELGIUM.

IMPROVEMENT IN WOOL-SPINNING MACHINERY.

Specification forming part of Letters Patent No. **168,512**, dated October 5, 1875; application filed June 11, 1875.

To all whom it may concern:

Be it known that I, CÉLESTIN MARTIN, of Verviers, in the Kingdom of Belgium, have invented a new and useful Improvement in Wool-Spinning Machinery, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a vertical central section of my improvement. Fig. 2 is a horizontal section in the plane of the line *x x*, Fig. 1. Fig. 3 shows the fixed spindle detached.

Similar letters indicate corresponding parts.

This invention relates to compound spindles for machines for spinning wool and other fibrous materials, and, among other things, to a contrivance for automatically and continuously oiling the parts.

My improvements are fully hereinafter described, and specifically pointed out in the claims, a preliminary explanation being deemed unnecessary.

In the drawing, the letter A designates the fixed spindle, the lower part of which is conical, and is ground in a seat, C, formed in the bottom of a vessel, F, the lower end of the spindle being provided with a screw-thread and a nut, B, fitted to this thread, serving to tighten the spindle. Between the nut and the spindle-seat C is placed a washer, *a*. I is the loose or hollow spindle, which, as well as the spindle A, tapers toward the upper end, and which, moreover, carries a whirl, H, by which it may be given a revolving motion. O designates a bobbin contained on the loose spindle I. The upper end of the loose spindle is closed, and contains a bearing-pin or pivot, K, which is fastened by means of a screw-thread, as shown, so that it is adjustable. The pivot K is fitted in a socket, L, formed in the upper end of the fixed spindle A, and thus, when the spindles A I are adjusted in their relative positions, the pin K is received in the socket, and a lateral movement of the loose spindle is prevented. The diameter of the spindles A I is such that a space, *b*, is formed between them for part of their length. The object of this space is to allow of the feeding of oil or other lubricating material to the pivot K, which communicates with the space *b* through a lateral vent, *c*, the oil being fed or carried upward by a spiral groove, N, formed in the surface of the fixed spindle, when the oil or other lubricating material is contained in the vessel F, and when the loose spindle is revolved. J designates the rail that carries the vessel F, or two or more of them. This rail carries also a reservoir, D, which communicates with the vessel or vessels F through a passage, E. (See Fig. 1.) The vessel or vessels F and the reservoir D are preferably cast in one piece with the rail J.

It is obvious that any chosen number of vessels F may be employed, so as to accommodate different numbers of spindles. By the reservoir D these several vessels F may be filled simultaneously, and are automatically replenished with oil through the passage E. Both the reservoir D and the vessels F are provided with covers, so that their contents are protected from dirt or dust or other impurities. G designates the cover of the vessel F. This has the form of a disk, and is placed on a shoulder, *d*, formed on the inner circumference of the vessel F, and which has a suitable opening for the passage of the compound spindle A I. This disk G not only serves to protect the oil from dirt, but also prevents its being thrown out of the vessel F by the great speed of the loose spindle. The cover M of the vessel D is connected thereto by a hinge-joint, *e*. On the lower part of the loose spindle I is placed a tube, P, of wood or metal, which serves to receive on it a few rounds of thread whenever the bobbin O is full, and is to be changed. The thread will then not have to be broken when the bobbin is to be replaced, and the mode of operation is the same as with the mule-jenny, or self-acting. S designates a lever constituting a brake, by means of which the loose spindle I may be stopped for taking up ends, or for any purpose. This lever has a hooked part, T, by means of which it is suspended from the rail J, the lever being so arranged that when pressure is applied to the end R by the hand or foot the end Q moves forward, and, coming in contact with the loose spindle through the whirl or pulley H, the motion thereof is retarded. To the lever is cast or secured a weight, Q′, which has a tendency to bring and retain the lever out of action.

From the construction of the brake-lever

and the manner of hanging it upon the rail J, it will be observed that the same can be readily removed from the rail in order to gain access to the spindle, and that it can be adjusted along the rail from one spindle to the other, thereby enabling the one brake-lever to be employed to stop the whirls of a series of spindles.

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

1. The combination, substantially as hereinbefore described, with the rail J and spindle having the whirl H, of the lever S, provided with a lip, T, resting within the said rail, and constructed with the operating end R and Q for stopping the whirl, as set forth.

2. The combination of the tube P, the whirl H, and the loose spindle I, substantially as described, whereby the bobbins can be changed without breaking the thread, as set forth.

CÉLESTIN MARTIN.

Witnesses:

FELIX LISON,

JULES GONAY.