(No Model.)

J. SCHOLES.

MACHINE FOR MAKING HEAVY ROVINGS.

No. 382,908. Patented May 15, 1888.

FIG. 4.

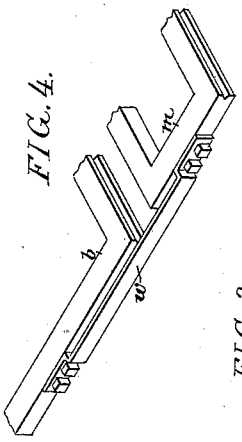


FIG. 3.

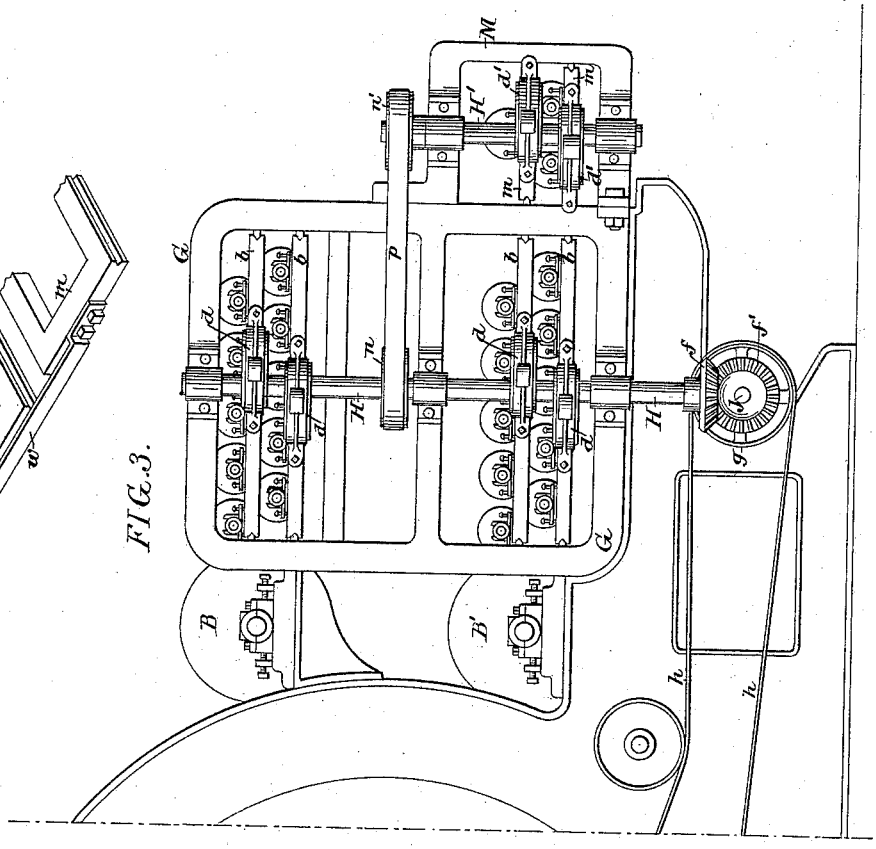


FIG. 1.

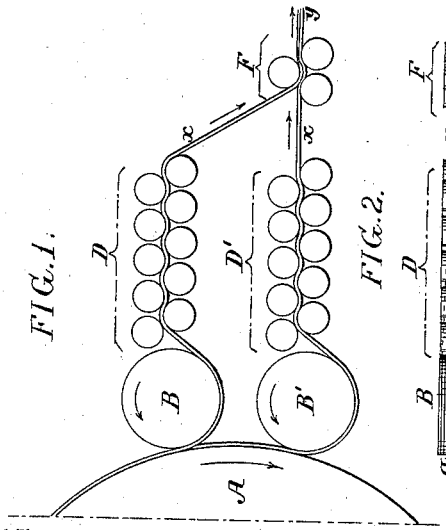
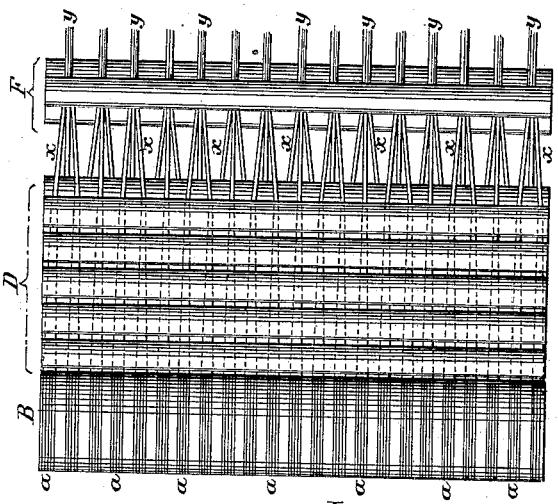


FIG. 2.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR MAKING HEAVY ROVINGS.

SPECIFICATION forming part of Letters Patent No. 382,908, dated May 15, 1888.

Application filed March 5, 1887. Serial No. 229,774. (No model.)

To all whom it may concern:

Be it known that I, JOHN SCHOLES, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Machines for Making Heavy Rovings, of which the following is a specification.

The object of my invention is to provide a simple device for the manufacture of rovings, which can be used effectively in the production of heavy yarn; and this object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a diagram showing in longitudinal elevation the essential features of the machine. Fig. 2 is a plan view of the devices shown in Fig. 1. Fig. 3 is a side view of sufficient of a carding-machine to illustrate one way of constructing the same in carrying out my invention, and Fig. 4 is a perspective view of a simpler construction of part of the machine.

In spinning certain classes of heavy yarns it is a common practice to feed in together two or more independent slubbings or rovings, so that they may be spun into a single strand; but the yarn produced in this manner is not of the best quality, either as regards strength or evenness, and difficulty is experienced in spinning it, owing to the liability of the separate slubbings or rovings to break when subjected to such strains as are caused in spinning. If, on the other hand, it is attempted to produce slubbings of large size by feeding wide fibrous strips or webs to the rub-rolls from the doffer of the carding-machine, such wide webs will not be perfectly rubbed and condensed, and the slubbings will not possess the amount of strength which is desirable, their spinning quality being very low. In order to overcome these objections, I have devised a simple attachment for an ordinary condenser carding-machine, whereby two or more fine slubbings, such as are usually produced, are condensed and rubbed together, so as to form a single and homogeneous roving of large size.

In Figs. 1 and 2, A represents part of the cylinder of a condenser carding-machine, and B B′ the upper and lower doffers provided with alternately-arranged doffing-rings *a*, as usual. D D′ represent the upper and lower sets of rub-rolls, which receive the narrow fibrous webs or strips from the upper and lower doffers, respectively, and condense these webs into fine slubbings *x*, which are divided into sets—three in each set in the present instance—each set of fine slubbings being then subjected to the action of the secondary rub-rolls F, whereby said fine slubbings are condensed into a single roving, *y*, of larger size, which can be conducted to a bobbin or spool frame of any desired character. This single roving can be spun into yarn without the objections above noted as attending the spinning of a single strand from a number of separate slubbings of small size, or from a single slubbing of large size condensed at one operation from a fibrous band or strip.

In Fig. 3 I have shown one plan of arranging and driving the rub-rolls, the frames *b*, carrying the rub-rolls D D′, being suitably mounted and guided in a structure, G, which has a vertical shaft, H, provided with eccentrics *d*, for reciprocating the rub-roll frames, this shaft being driven by bevel-gears *f f′* from a shaft, J, mounted in suitable bearings at the base of the structure G, and provided with a pulley, *g*, which receives a belt, *h*, from a pulley on any available shaft of the carding-machine. The frames *m* of the secondary rub-rolls are mounted and guided in a structure, M, secured to the structure G, and having a shaft, H′, with eccentrics *d′* and a pulley, *n′*, which is driven by a belt, *p*, from a pulley, *n*, on the shaft H.

The eccentrics of each set of rub-rolls are oppositely arranged on the shaft, as shown in Fig. 3, so that the rubbing-surfaces of each set move in opposite directions.

In Fig. 4 I have shown a simpler plan of effecting the reciprocation of the frames *m*, carrying the rub-rolls of the secondary set—that is to say, by a bar, *w*—forming a direct connection between the frames *m* and *b*.

The secondary set of rub-rolls shown comprises but three rolls; but it may have any number desired.

I am aware that it is not new to press together two or more strands derived from the rubbing mechanism of a carding-machine, and I am also aware that it has been proposed to rub together two or more strands or slivers; hence I claim neither of these things, broadly; but

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

1. The combination of the cylinder and doffers of a carding-machine, upper and lower sets of rubbers, one for each doffer, a single set of secondary rubbers, and means for supporting and operating said rubbers, all substantially as specified.

2. The combination of the cylinder and doffers of a carding-machine, upper and lower sets of rubbers, one for each doffer, a set of secondary rubbers, the reciprocating frames of said sets, bars connecting the frames of one of the sets of main rubbers with those of the secondary set, and means for reciprocating the rubber frames, all substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN SCHOLES.

Witnesses:
WILLIAM D. CONNER,
HARRY SMITH.