

No. 638,162.

Patented Nov. 28, 1899.

G. BARBER & J. CROMIE.
RUBBING MECHANISM FOR CARDING MACHINES.

(Application filed Mar. 7, 1898.)

(No Model.)

Fig. 1.

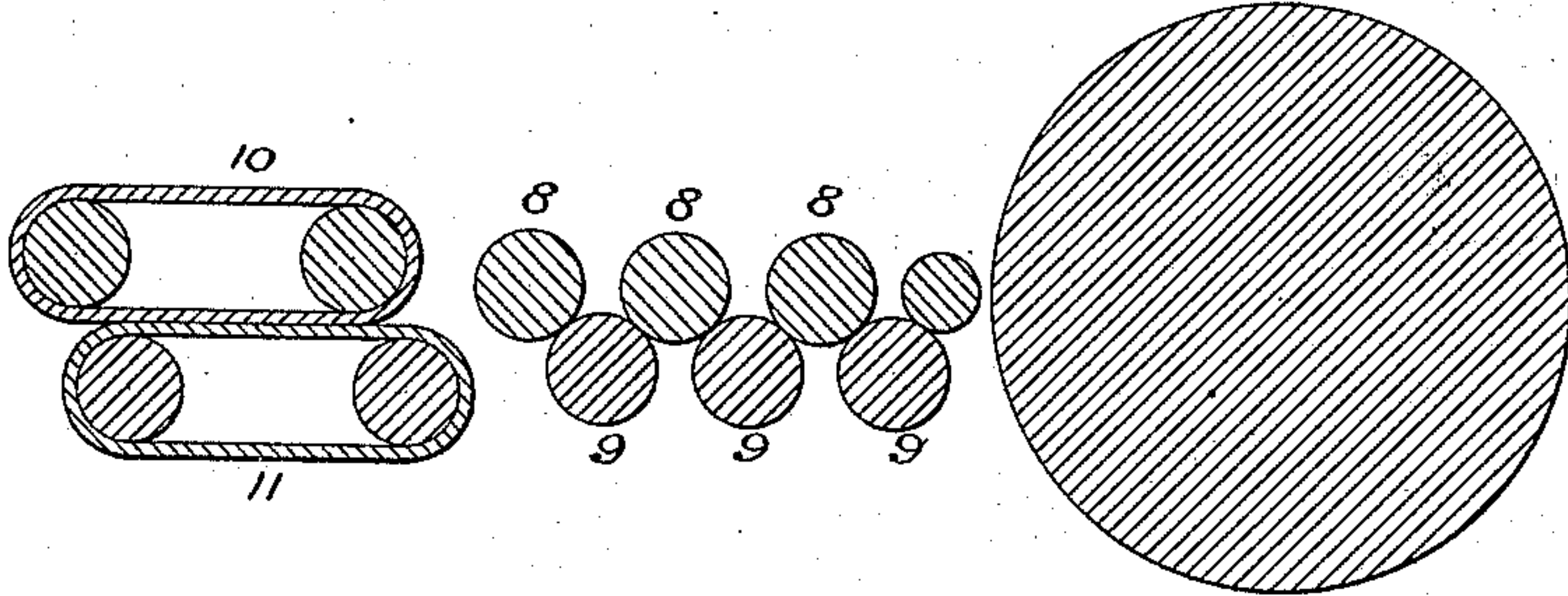
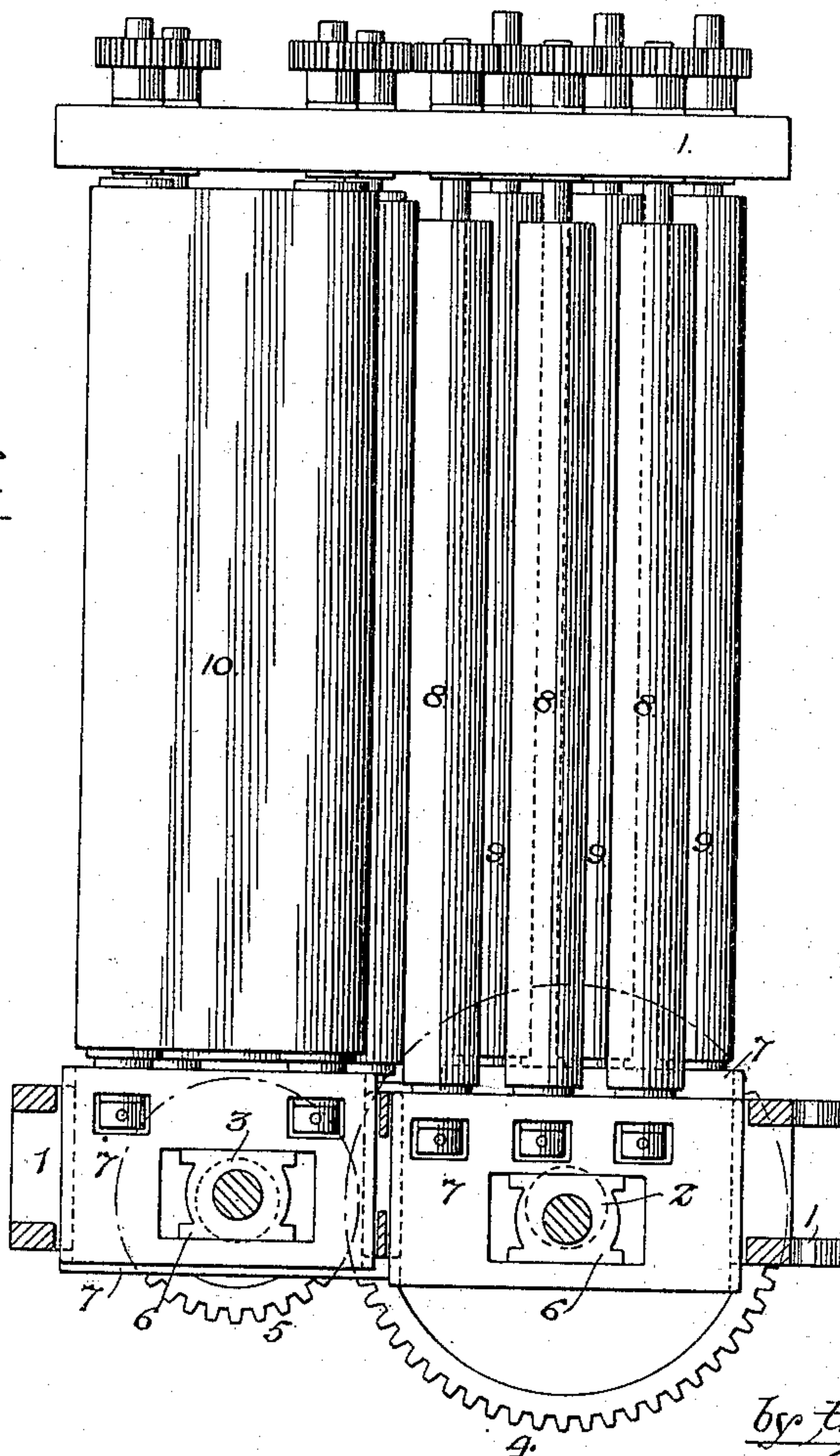


Fig. 2.



Witnesses:-

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UNITED STATES PATENT OFFICE.

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RUBBING MECHANISM FOR CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 638,162, dated November 28, 1899.

Application filed March 7, 1899. Serial No. 708,100. (No model.)

To all whom it may concern:

Be it known that we, GEORGE BARBER, of Philadelphia, Pennsylvania, and JOHN CROMIE, of Camden, New Jersey, citizens of the United States, have invented certain Improvements in Rubbing Mechanism for Carding-Machines, of which the following is a specification.

The object of our invention is to so construct rubbing mechanism for carding-machines as to produce a better roving or sliver than is possible with rubbing mechanism of the usual construction. This object we attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional diagram illustrating the elements of our improved rubbing mechanism; and Fig. 2 is a sectional plan view of the same, together with sufficient of the operating mechanism to convey a proper understanding of our invention.

Usually the rubbing mechanism employed in connection with each doffer of a condensing carding-machine for rubbing the narrow webs of fleece into rovings or slivers consists of upper and lower reciprocated frames, each carrying its respective element of the rubbing device—as rolls or an apron, or both—one frame being moved to the right as the other is moved to the left, so that each element of the rubbing device, whether upper or lower, moves as a unit, and consequently there is the same extent of lateral reciprocation and the same speed of reciprocating movement from the receiving to the delivery end of the rubbing device. It is advisable in many cases, however, to employ two sets of rubbing mechanism—that is to say, a primary set for acting upon the narrow webs of fleece as they come from the doffer and rubbing the same into the form of crude slivers or rovings and a secondary set for acting upon these crude slivers or rovings and rubbing them into their final form—the two sets being independently driven, so that the second set may, if desired, be given a shorter stroke and a higher speed than the primary set. Attempts heretofore made in this direction have not been successful be-

cause, mainly, of the character of the rubbing devices employed. Thus in one instance with which we are familiar the primary set of rubbing mechanism comprised three rub-rolls, one above and two below, and the secondary set comprised five rub-rolls, two above and three below.

In carrying out our invention we use as the primary rubbing mechanism a set of rub-rolls, having a number of rolls in each element of the set, both upper and lower, and as the secondary rubbing mechanism we use a pair of aprons, the primary set of rub-rolls having sufficient control of the fleecy webs to properly form the crude slivers or rovings therefrom, and the aprons, owing to the fact that they grip the slivers from end to end of the run and exert no drawing action upon them, being well adapted for condensing said slivers by means of a short, quick rub.

In the drawings, 1 represents the fixed frame of the rubbing mechanism, and 2 and 3 eccentric or crank shafts vertically mounted in bearings at one end of said framework, the shaft 2 being intended for imparting reciprocating movement to the primary set of rubbing devices and the shaft 3 being intended for imparting reciprocating movement to the secondary set. The two shafts are geared together by spur-wheels 4 and 5, which in the present instance are so designed that the shaft 3 will rotate at a higher speed than the shaft 2, and the eccentrics or cranks of said shaft 3 have a shorter throw than those of the shaft 2, so that in connection with this higher speed of reciprocation of the secondary set of rubbing mechanism there will be a shorter stroke or lateral reciprocation of the same. The cranks or eccentrics of each shaft act upon boxes 6, which are free to slide laterally in yokes, each forming part of a frame 7, carrying one of the elements of one of the sets of rubbing mechanism, there being one of these frames for each element, upper and lower, of each set of rubbing mechanism and each frame being suitably guided in or on the fixed structure of the device.

In the present instance the upper frame of the primary set of rubbing mechanism car-

ries three rub-rolls 8 and the lower frame also carries three rolls 9, the upper frame of the secondary set of rubbing mechanism carrying the rolls for supporting and driving the upper apron 10 and the lower frame carrying the rolls for supporting and driving the lower apron 11.

Having thus described our invention, we claim and desire to secure by Letters Patent—

10 The combination, in rubbing mechanism for carding-machines, of primary and secondary sets of rubbers, the secondary set compris-

ing upper and lower aprons, with mechanism for reciprocating said secondary set at a higher rate of speed than the primary set, substantially as specified. 15

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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Witnesses:

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