

SEWING MACHINE.

903,439.

Patented Nov. 10, 1908..

Fig. 1.

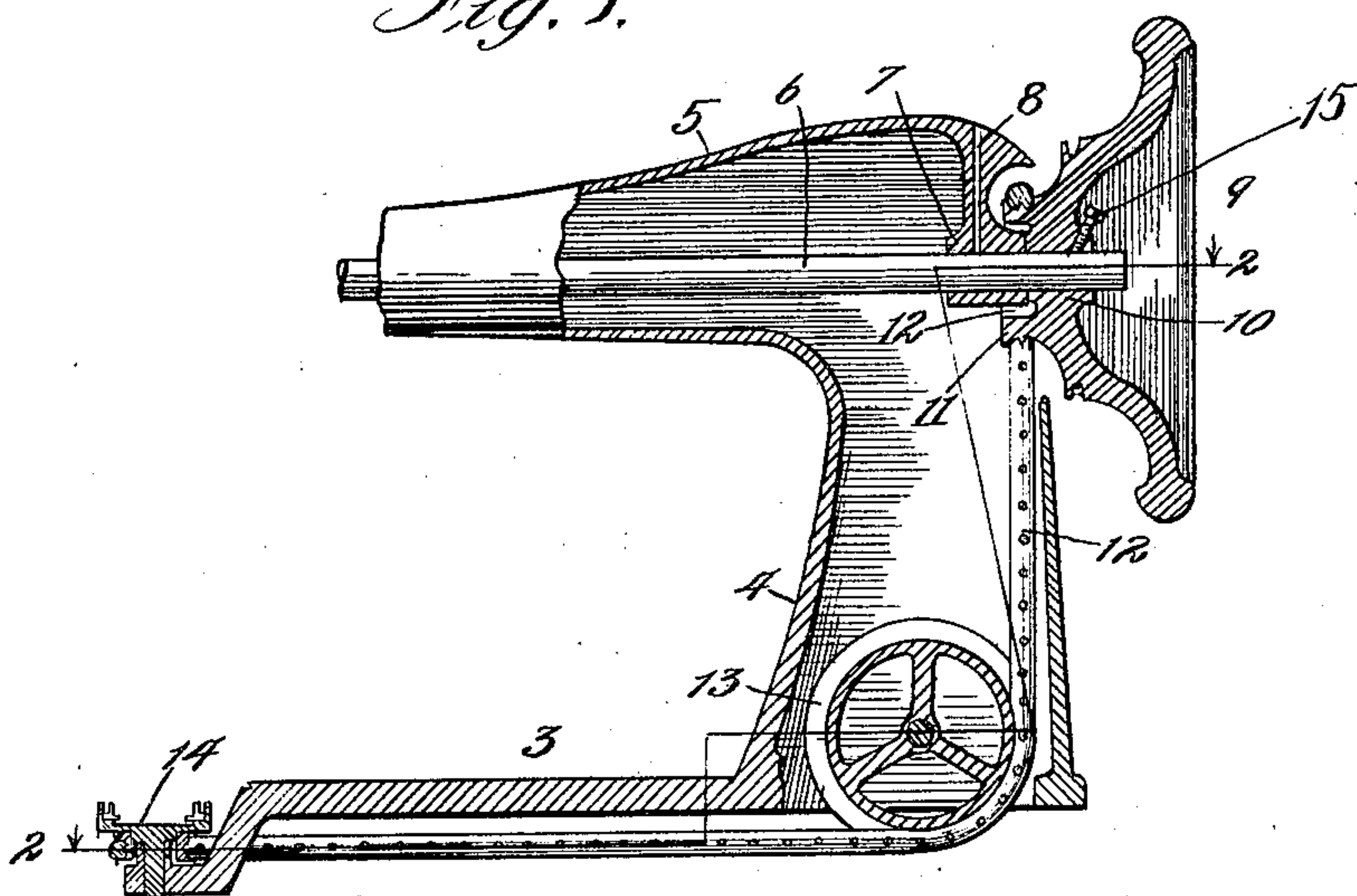
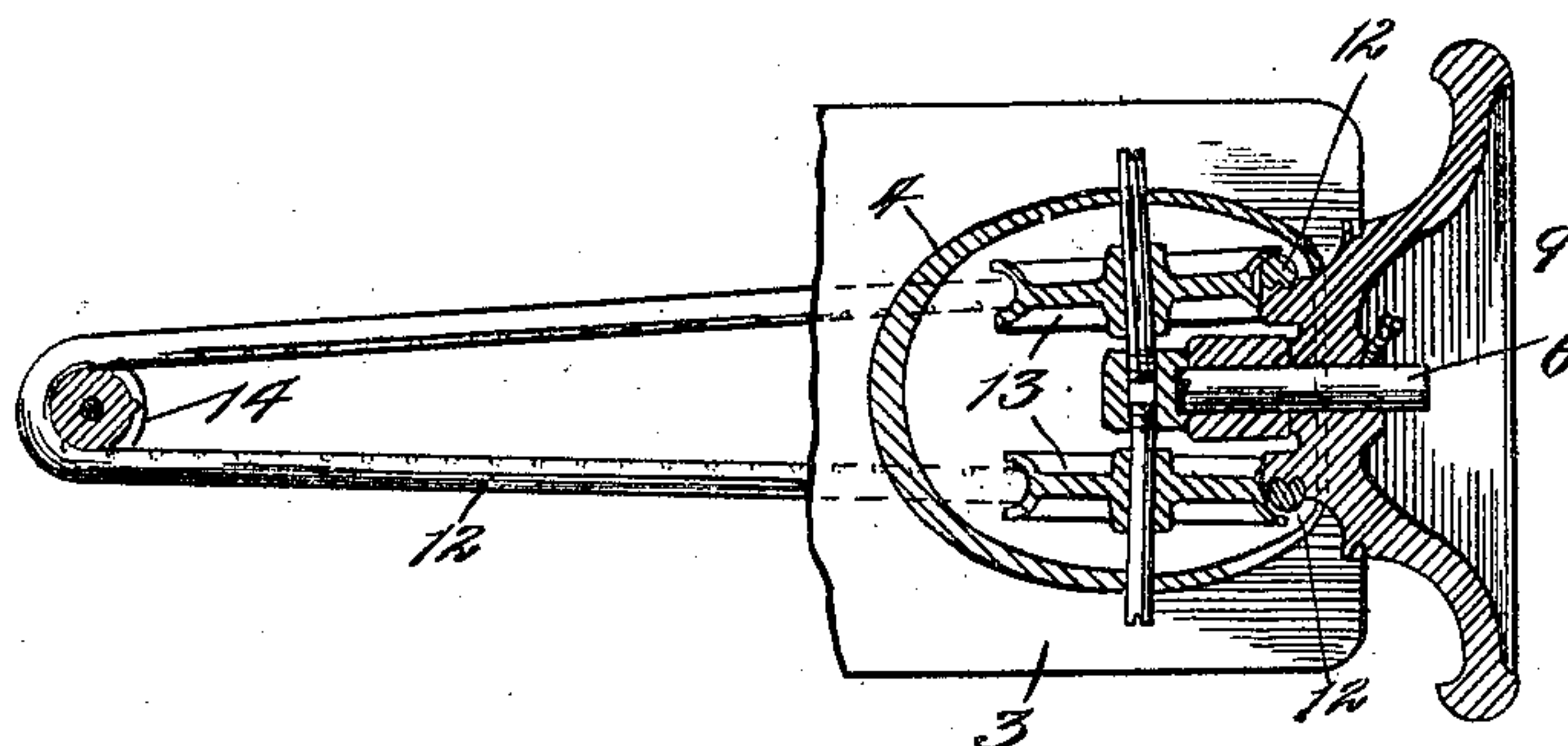


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES BOLTON AND JOHN WEISS, OF CHICAGO, ILLINOIS,

SEWING-MACHINE.

No. 903,489.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed December 4, 1905. Serial No. 290,069.

To all whom it may concern:

Be it known that we, JAMES BOLTON and JOHN WEISS, both citizens of the United States, and residents of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a full, clear, and exact specification.

10 This invention relates to sewing machines in which the drive shaft journaled in the overhanging arm is lubricated by a passage in the bearing thereof and has secured upon its outer end a balance wheel, the hub of
15 which constitutes a pulley for the driving belt and particularly to sewing machines in which said hub also constitutes the pulley for a belt directly driving a shuttle carrier.

In sewing machines prior to our invention, the construction and arrangement of the balance wheel has been such that the lubricant applied to the shaft unavoidably drops therefrom at a point between the bearing of the shaft and the balance wheel and
25 externally of the upright arm of the machine with the result that the dripping lubricant not only defaces but injures the goods being sewed and as to certain fine fabrics and particularly those in delicate colors, entirely destroys them for subsequent use and
30 this very frequently no matter how much care is taken in supplying the lubricant to the drive shaft or in wiping the arm and bed plate of the machine.

35 The object of our invention is to provide a simple and effective means whereby oil discharging from the bearing of the main or drive shaft of a sewing machine will be prevented from escaping outside the upright
40 arm of the machine and whereby all drip therefrom will be discharged into a pan located inside of the base of the upright supporting the overhanging arm of a sewing machine and thereby prevent any possibility
45 of the goods being sewed from at any time being soiled or injured thereby.

With these ends in view, our invention consists of certain features of novelty and construction, combination and arrangement
50 of parts by which said objects and certain other objects hereafter appearing are attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claim.

55 In said drawing: Figure 1 indicates a

vertical section at one side of the drive shaft of the arm and bed plate of a sewing machine, in which the shuttle carrier or hook is driven by an endless belt supported at one end upon a pulley on the balance wheel or
60 hub thereof, and Fig. 2 is a section on the line 2, 2 of Fig. 1.

3 indicates the bed plate of a sewing machine upon which is mounted a vertical member or support 4 of the overhanging arm
65 5, in which is journaled in the usual manner, the drive shaft 6, which projects through and has its bearing in a hanger 7 forming a part of the rear side wall of the overhanging arm, which bearing is supplied with oil
70 as usual through the duct 8.

Keyed or otherwise secured to the outer projecting end of the shaft 6 is a balance wheel 9, the hub 10 of which has an endwise bearing against the outer end of the hanger
75 7 but unlike other hubs, is provided with an annular groove, which, together with the flange 11, form a chamber 11^a. The walls of the chamber 11^a project inwardly beyond the end bearing of the hub against the
80 hanger and to such a distance as will insure the conducting of the oil discharging between these end bearings and by means of the annular flange 11 inwardly to a point immediately above the drip pan (not shown)
85 commonly located at the bottom of the upright 4. The result of this construction is that no lubricator oil escaping from the bearing of the main shaft can possibly creep or discharge outside of the upright 4 at all
90 and therefore to the goods upon which the machine is operating, nor is it possible for the lubricant to be conducted upon the outer surface of the balance wheel and thence discharge upon such goods, for the reason that
95 it will fall by gravity from the inner edge of the flange and therefore has no opportunity to reach the outer surface referred to.

As shown in the drawing, the flange or hub of the balance wheel may also form a
100 pulley for an endless belt 12 passing around a wheel 13 at the base of the arm for actuating a shuttle carrier or hook 14.

Although our invention is applicable to sewing machines in which the drive shaft
105 actuates a vertical shaft in the upright of the arm, it is particularly adapted to sewing machines in which the shuttle carrier or hook is connected by an endless belt directly with the drive shaft as herein shown and
110

described and for the reason that the relative arrangement of the fly wheel and the bearing of the main shaft is such that an endless belt may be conveniently placed in position and its connections made without disturbing the continuity of the belt which is essential to its best operation in order that it may be placed in its operative position with an entire absence of slack, and thereafter, as far as may be, not require any adjustment for slack.

In conclusion it should be observed that by having the pulley for the belt integral with the balance wheel and securing the latter to the shaft by the screw 15, as shown, an important result is secured in that the balance wheel may be maintained in a loose position on the shaft and turned until the shuttle or shuttle carrier, as may be, is timed with the needle; and that as soon as this is done, the balance wheel may then be

finally tightened upon the shaft by means of said set-screw.

Having described our invention, what we claim as new and desire to secure by Letters Patent is:

A sewing machine comprising in combination the over-hanging arm, the hollow standard thereof, a bearing in said arm, the power shaft supported therein, the balance wheel mounted upon said shaft, and a flange surrounding the shaft and projecting from the balance wheel to a point inside the standard, substantially as described.

In witness whereof, we have hereunto set our hands this 2nd day of December 1900.

JAMES BOLTON.
JOHN WEISS.

In the presence of witnesses—

JNO. G. ELLIOTT,
M. S. REEDER.