

V. STEVENSON.
DETACHABLE GREASE BOX.
APPLICATION FILED JULY 2, 1910.

996,293.

Patented June 27, 1911.

Fig. 1.

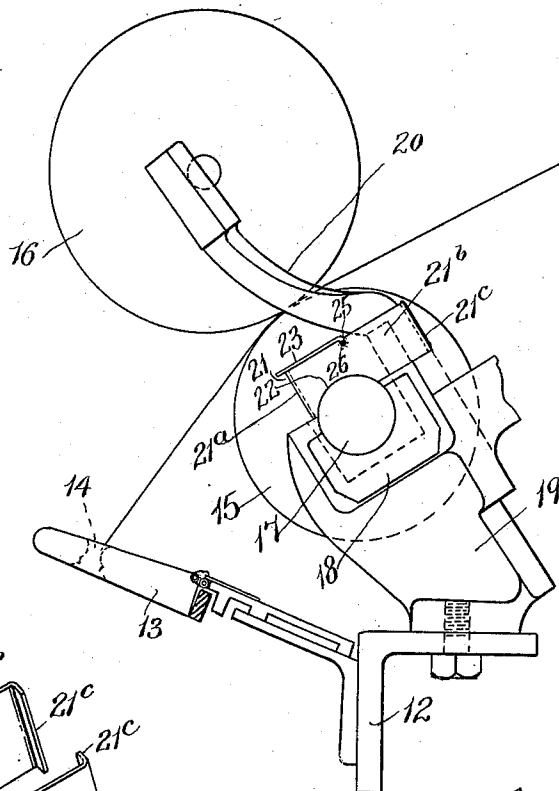


Fig. 2.

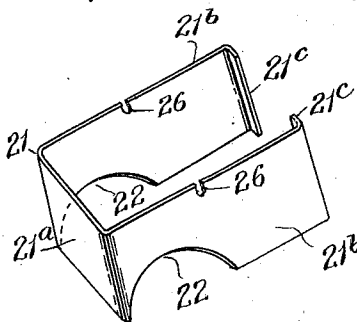
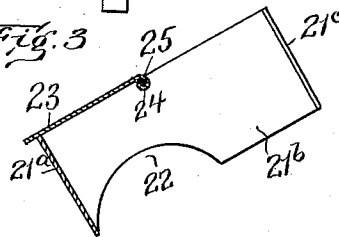


Fig. 3.



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UNITED STATES PATENT OFFICE.

VIRLEY STEVENSON, OF BALLARDVALE, MASSACHUSETTS, ASSIGNOR TO HENRY W. DAVIES, OF ANDOVER, MASSACHUSETTS.

DETACHABLE GREASE-BOX.

996,293.

Specification of Letters Patent. Patented June 27, 1911.

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To all whom it may concern:

Be it known that I, VIRLEY STEVENSON, of Ballardvale, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Detachable Grease-Boxes, of which the following is a specification.

This invention relates to spinning machinery, particularly machinery for spinning worsted yarns.

A worsted spinning frame is provided with a number of series of pairs of drawing rolls between which the yarn passes to the spindles carrying the cops or bobbins on which the yarn is accumulated. The series of pairs of drawing rolls at the front of the machine are called the front rolls and are arranged to deliver the yarn to the guides of the thread board, interposed between the front rolls and the spindles. Each pair of front rolls comprises a lower roll affixed to a horizontal shaft which is journaled in an open bearing, and a top roll which is movable toward and from the bottom roll, and bears yieldingly on the yarn passing between the two rolls. The lower front rolls are all rigidly attached to a single shaft, the bearings of which are spaced apart so that several of the lower rolls are interposed between each bearing and the next. The top rolls are guided in their movements toward and from the lower rolls by horns or standards attached to the bearings of the lower rolls and projecting upwardly therefrom. The open bearings of the shaft of the lower rolls are formed to permit the free insertion and removal of said shaft and the rolls carried thereby. The open form of the bearings necessitates the exposure of the upper sides of the portions of the shaft that are journaled in the bearings, these portions being therefore subjected to contact with dust and lint.

It is customary to lubricate the journaled portions of the shaft by applying grease to the exposed surfaces of said journaled portions. The grease thus applied being unprotected is liable to be accidentally removed and to become contaminated by dust, lint, etc.

My invention has for its object to enable the exposed surfaces of the journaled portions of the shaft carrying the lower front rolls, to be incased by a removable grease box which is adapted to confine and protect

the grease applied to said journaled portions and is also adapted to be quickly applied to and removed from its operative position and to be held in such position by the horn or standard which guides the upper rolls.

The invention consists in the improved grease box which I will now proceed to describe and claim.

Of the accompanying drawing forming a part of this specification—Figure 1 represents an end elevation of a portion of a worsted spinning frame showing the lower and top front rolls, and a grease box embodying my invention. Fig. 2 represents a perspective view of the grease box detached and without its cover. Fig. 3 represents a longitudinal section of the grease box with its cover.

Similar reference characters indicate the same or similar parts in all the figures.

In the drawings,—12 represents the beam which supports the usual thread board 13, the latter having eyes or guides 14 through which the yarns pass from the front drawing rolls 15 and 16. The lower front rolls are rigidly attached to a shaft 17 which is journaled at suitable intervals in bearings 18 mounted on the usual roll stand 19, the bearings 18 being of open form so that the shaft 17 and the rolls 15 carried thereby may be readily inserted in and removed from the bearings. The top rolls 16 are movable toward and from the lower rolls 15 and are guided by the usual horns or standards 20 attached to the stand 19 and projecting upwardly therefrom. The construction thus far described is common and well known and forms no part of my invention.

In carrying out my invention I provide a grease box 21 which is adapted to cover the exposed surface of one of the journaled portions of the shaft 17 and to confine in contact with said exposed portion a charge of grease. The grease box is composed of a single strip of thin sheet metal, preferably steel, which is bent, as shown by Fig. 2, to form a front wall 21^a, two side walls 21^b and two inwardly projecting ears 21^c. In the lower edges of the side walls 21^b are formed recesses 22 which conform to the upper side of the shaft 17. The side walls are extended rearwardly from the recesses 22 far enough to enable the ears 21^c to engage the rear side of the horn or standard 20 so that when the box is in place it is prevented

from moving forward by the bearing of the said ears on the horn, which constitutes a fixed box-retaining member adjacent to the bearing 18.

5 The sheet metal of which the box is made is sufficiently resilient to permit the side walls 21^b to be sprung apart in applying the box, so that the ears are enabled to be moved across the sides of the horn 20 and to spring inwardly and engage the back of the horn when the recesses 22 coincide with the shaft 17.

The box is provided with a cover 23, one end of which is rolled to form a socket 24 which receives a pintle 25 engaged with openings 26 in the side walls of the box, the said pintle being of such length that it will not be disengaged from the side walls by the movements of the latter which are required in engaging the box with the horn.

20 It will be seen from the foregoing that the described grease box may be readily applied to and removed from its operative position, and that when in place it forms portions of a grease receptacle of which the shaft 17 forms the bottom. The box protects the journaled portion of the shaft 17 and a charge of grease applied thereto, the grease being also protected against contact with dust, lint, etc. The grease employed

is relatively hard so that it will not flow through the crevices between the lower edge of the box and the bearings 18.

The grease box is adapted to slide on the horn 20 so that it may be first applied to the horn at a point considerably above the base thereof, and then moved downwardly until its ears bear on the base of the horn.

I claim—

A grease box composed of a resilient strip recessed at one edge to receive a portion of a shaft and bent to form a front wall, side walls containing said recesses, and ears on the rear ends of the side walls, adapted to spring into engagement with a fixed box-retaining member, and a cover hinged to the side walls and adapted to extend over the space above the recesses, the side walls projecting backwardly from the cover and recesses, the whole constituting parts of a grease receptacle adapted to be removably applied to a shaft supported by an open bearing, the said shaft forming the bottom of said receptacle.

In testimony whereof I have affixed my signature, in presence of two witnesses.

VIRLEY STEVENSON.

Witnesses:

JAMES H. GREENE,
FRANKLIN H. STACEY.