

July 1, 1952

H. L. CANUP

2,601,876

COMPENSATING BEARING FOR CLOTH ROLLS OF LOOMS

Filed Aug. 12, 1949

2 SHEETS—SHEET 1

Fig. 1.

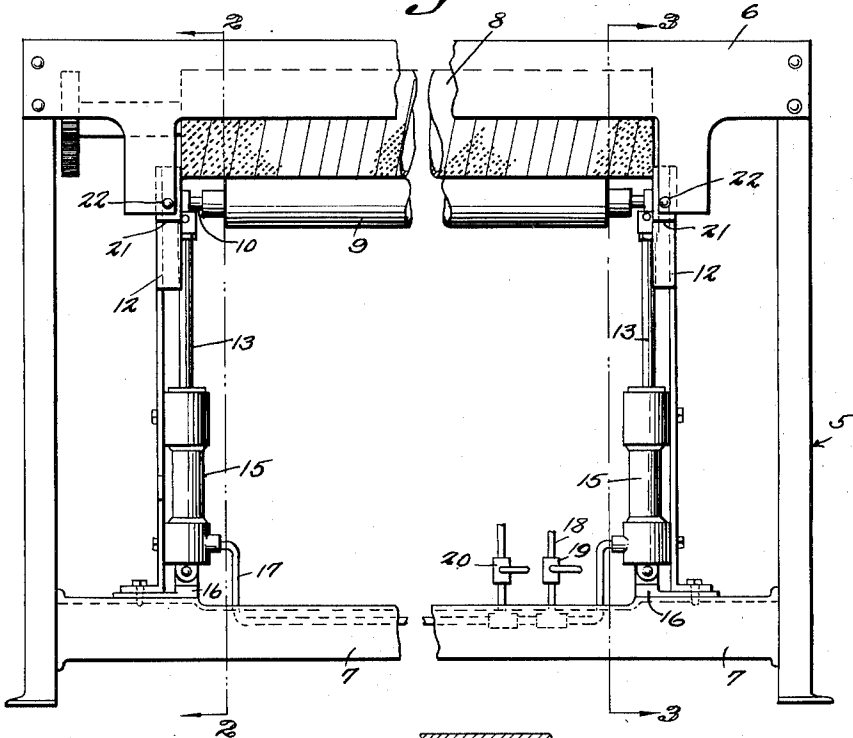


Fig. 2.

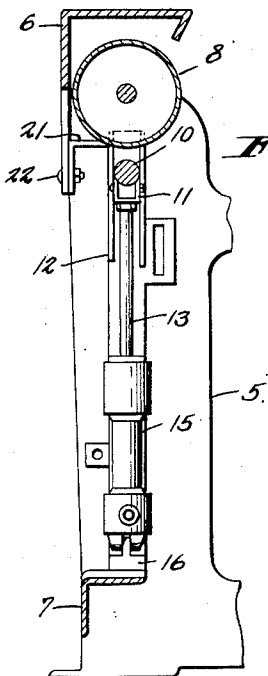
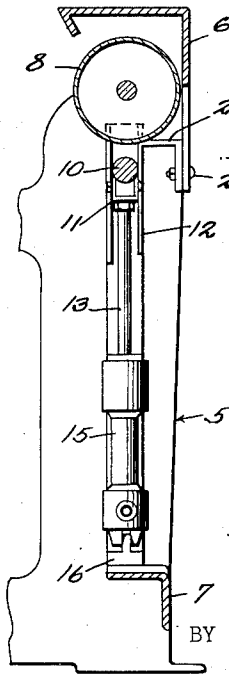


Fig. 3.



H. L. Canup

INVENTOR

BY *Chas. H. Coe.*
ATTORNEYS.

July 1, 1952

H. L. CANUP

2,601,876

COMPENSATING BEARING FOR CLOTH ROLLS OF LOOMS

Filed Aug. 12, 1949

2 SHEETS—SHEET 2

Fig. 4.

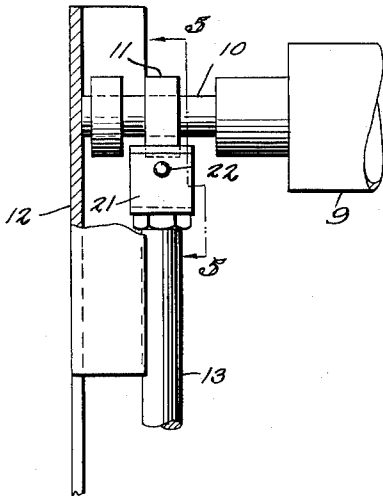


Fig. 5.

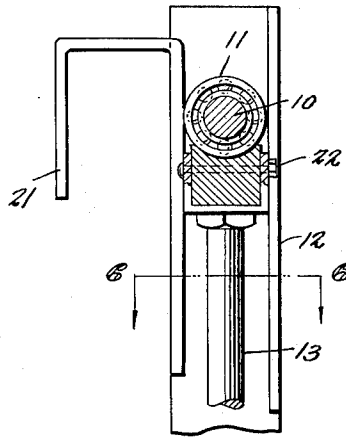


Fig. 6.

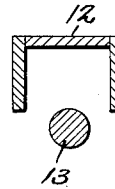


Fig. 7.

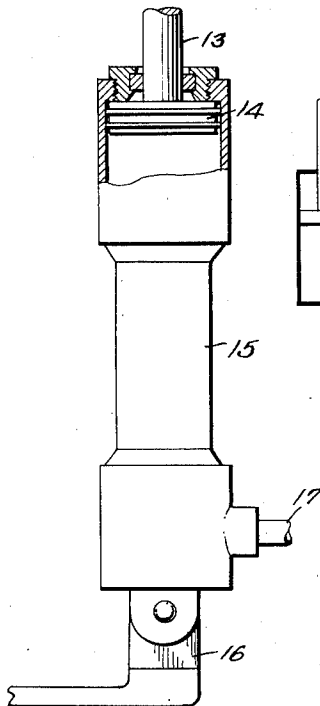
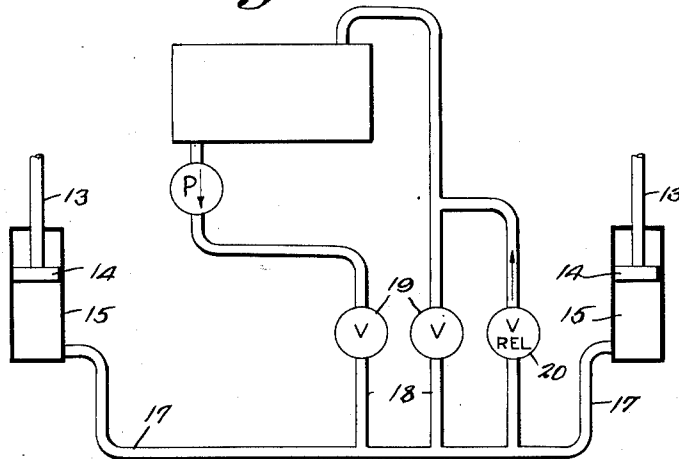


Fig. 8.



H. L. Canup

INVENTOR

BY *Calnow & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,601,876

COMPENSATING BEARING FOR CLOTH ROLLS OF LOOMS

Harley L. Canup, Kershaw, S. C.

Application August 12, 1949, Serial No. 109,882

1 Claim. (Cl. 139—308)

1

This invention relates to looms, the primary object of the invention being to provide means for insuring the accurate and even winding of the cloth on the cloth roll of a loom which operates in conjunction with a loom take-up roll.

An important object of the invention is to provide vertically adjustable bearings in which the shaft of the cloth roll of a loom, operates, the bearings operating to permit of automatic adjustment of the cloth roll, to compensate for the increased diameter of the roll as the cloth is being wound thereon.

Another object of the invention is to provide a device of this character which will reduce the upkeep of the device to a minimum, and will contribute to the ease of operation on the part of the operator who removes the cloth from the roll.

A further object of the invention is to provide a pneumatic compensating bearing for the cloth rolls of looms, which may be readily and easily installed in loom construction, without the necessity of making alterations in the loom, in order to install the device.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawings

Figure 1 is an elevational view of a loom illustrating the cloth roll as mounted in bearings forming the subject matter of the present invention.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1.

Fig. 4 is an enlarged fragmental elevational view illustrating one of the bearings.

Fig. 5 is a sectional view taken on line 5—5 of Fig. 4.

Fig. 6 is a sectional view taken on line 6—6 of Fig. 5.

Fig. 7 is an elevational view of one of the cylinders of the attachment.

Fig. 8 is a diagrammatic view illustrating the hydraulic system controlling the movements of the bearings.

Referring to the drawings in detail, the frame of a loom is indicated generally by the reference character 5 and includes the upper breast beam 6 and lower front girt 7.

2

The usual take-up roll of the loom is indicated by the reference character 8, and the function of this roll is to cooperate with the cloth roll in maintaining the cloth straight or even, while it is being rolled on the cloth roll.

The cloth roll which is of the conventional structure, is indicated by the reference character 9 and is mounted on the shaft 10, the ends of which are mounted in the bearings 11 that are movable in the vertical guides 12.

The bearings are supported on the upper ends of the rods 13 and are disposed at each end of the cloth roll 9, as clearly shown by Fig. 1 of the drawings.

These rods 13 carry pistons 14 on the lower ends thereof, which pistons operate in the cylinders 15 that in turn are supported on the brackets 16 secured to the front girt 7.

The reference character 17 indicates a pipe line which has its ends extending into the lower ends of the cylinders 15, as shown by Fig. 1 of the drawings, there being provided a feed pipe 18 connected with the pipe line 17, through the valve 19. The pipe 18 connects with a suitable source of fluid or compressed air supply not shown. A relief valve indicated by the reference character 20 is of conventional structure, and is mounted in the pipe line to relieve excessive pressure in the pipe line to insure the true operation of the compensating bearings.

It might be further stated, that the bearings 11 are secured to the breast beam 6 by means of the brackets 21 that are bolted to the breast beam, by means of bolts 22.

From the foregoing it will be seen that by admitting fluid or air through the pipe line 17, the rods 13 together with their bearings which are supported by the rods, will move upwardly, and since the shaft of the cloth roll is mounted in the bearings, the cloth roll will be moved into contact with the take-up roll of the loom. As the cloth is wound on the cloth roll 9 and the diameter of the cloth roll increases, the bearings 11 will move downwardly compensating for the increased diameter of the cloth roll, insuring an even pressure between the cloth roll and take-up roll to provide for the even winding of the cloth on the cloth roll.

Should the cloth roll be moved downwardly to a degree to compress air within the cylinders 15, beyond a predetermined pressure, the relief valve 20 will operate to relieve excessive pressure and prevent binding between the take-up roll and cloth roll of the loom.

While I have shown and described the device as used in conjunction with a compressed air

tank or hydraulic means, it is to be understood that the device may be operated by air pressure derived from a hand-operated pump, without departing from the spirit of the invention.

Having thus described the invention, what is claimed is:

An adjustable cloth roll bearing adapted to be attached to a loom frame, in which a take-up roll operates, comprising vertical guides, bearing members mounted for vertical movement longitudinally within the vertical guides and in which the ends of the shaft of such cloth roll are mounted, cylinders mounted within the loom frame, pistons including piston rods, operating within the cylinders, said bearing members being connected to the upper ends of the piston rods, a pipe line common to both cylinders through which air under pressure is passed into the cylinders maintaining said cloth roll under prede-

termined pressure against the take-up roll, controlling the winding of material on said cloth roll.

HARLEY L. CANUP.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
609,156	Meats	Aug. 16, 1898
2,194,078	Simonds	Mar. 19, 1940
2,196,000	Richardson	Apr. 2, 1940

FOREIGN PATENTS

Number	Country	Date
2,741	Great Britain	of 1855