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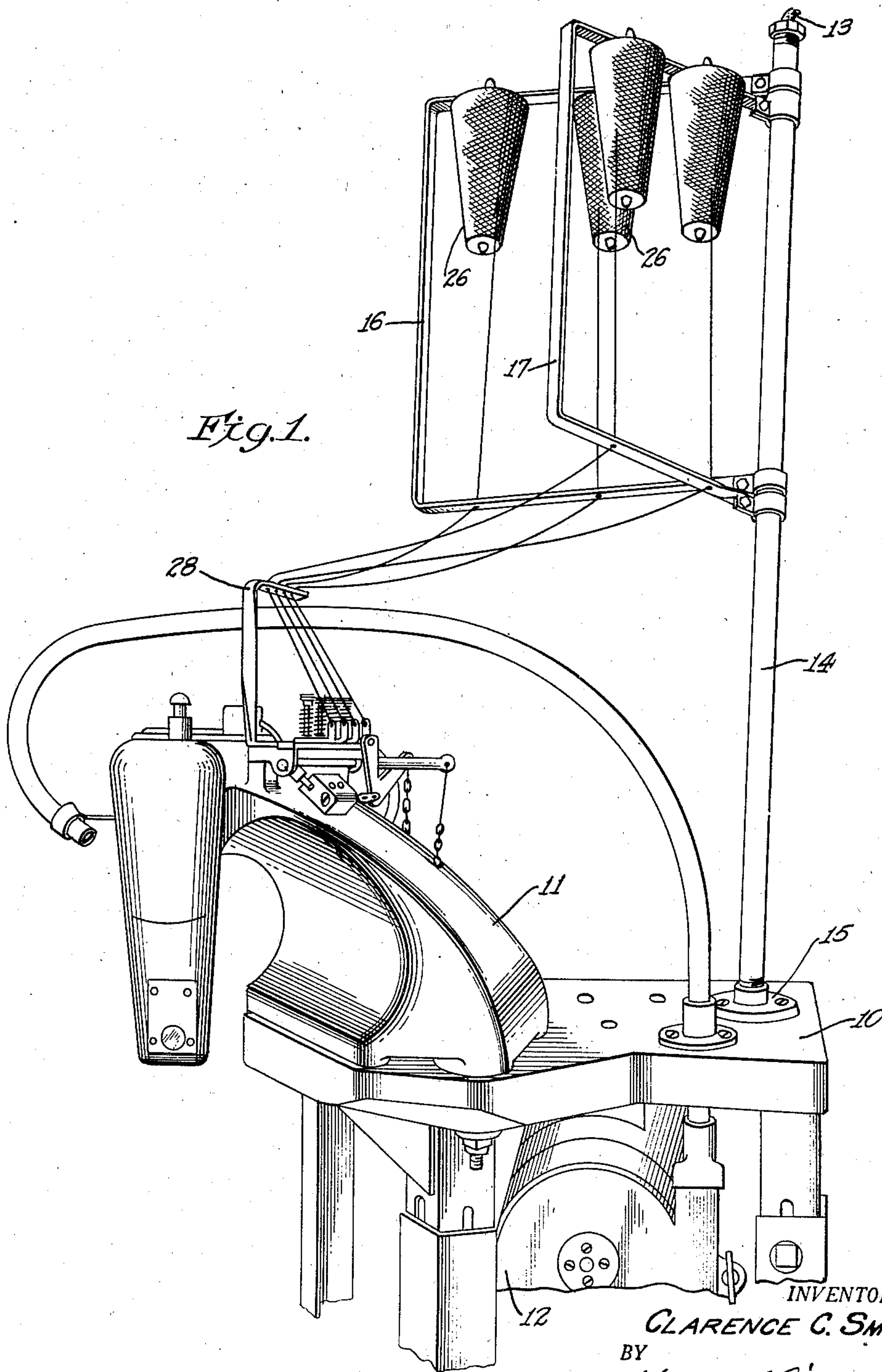
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2,430,832

THREAD STAND FOR SEWING MACHINES

Filed Dec. 9, 1943

2 Sheets-Sheet 1



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Fig. 2.

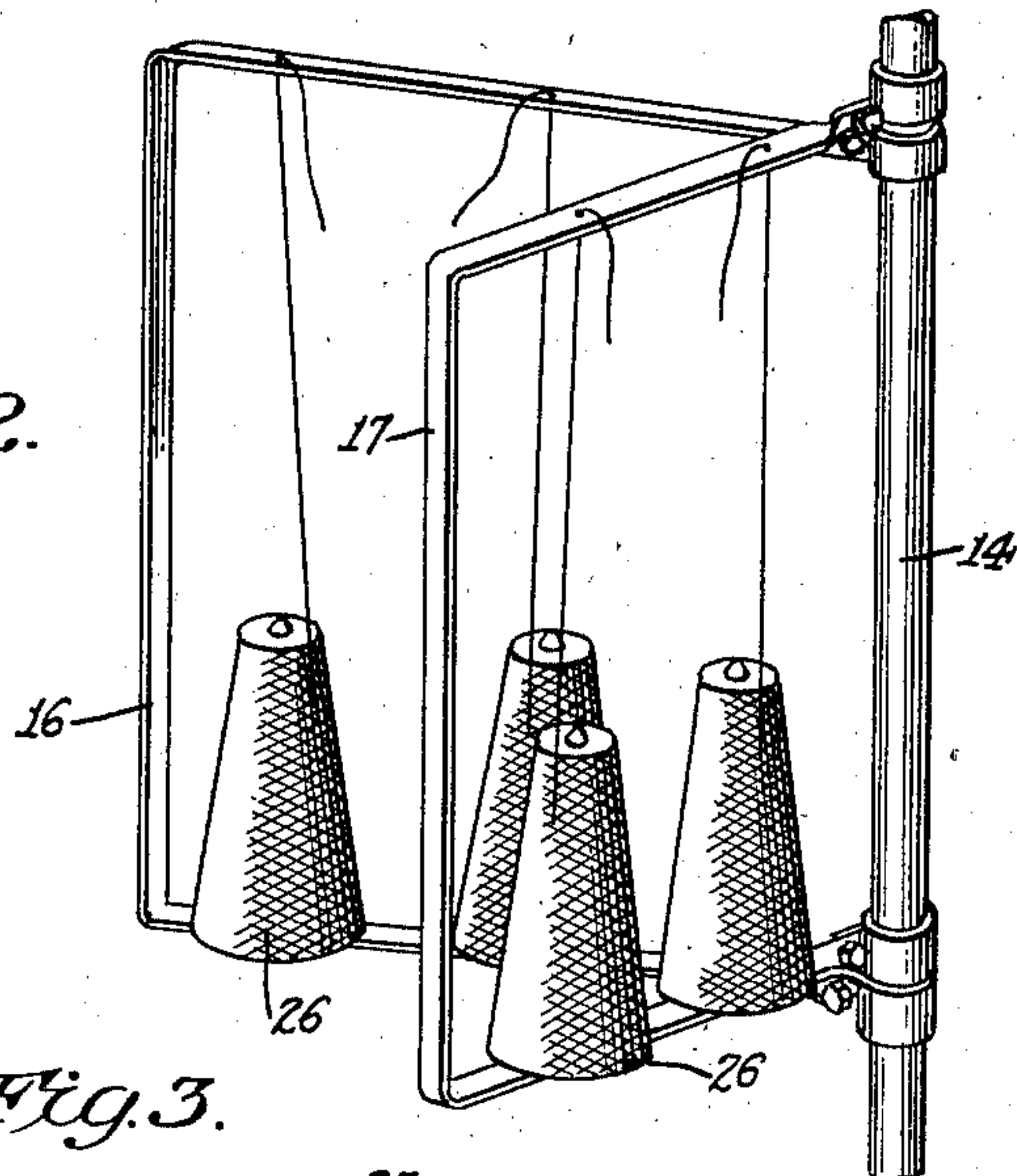


Fig. 3.

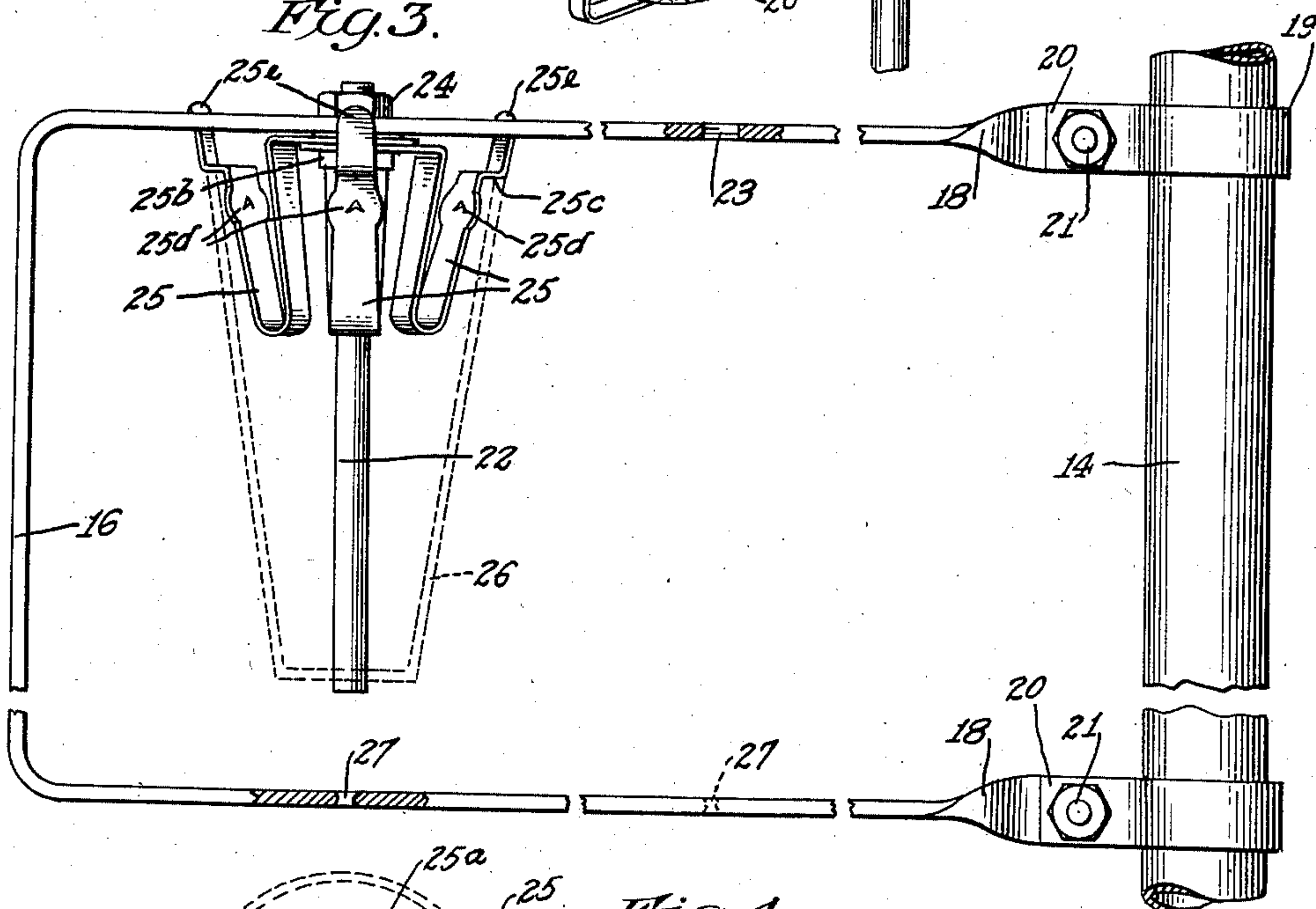
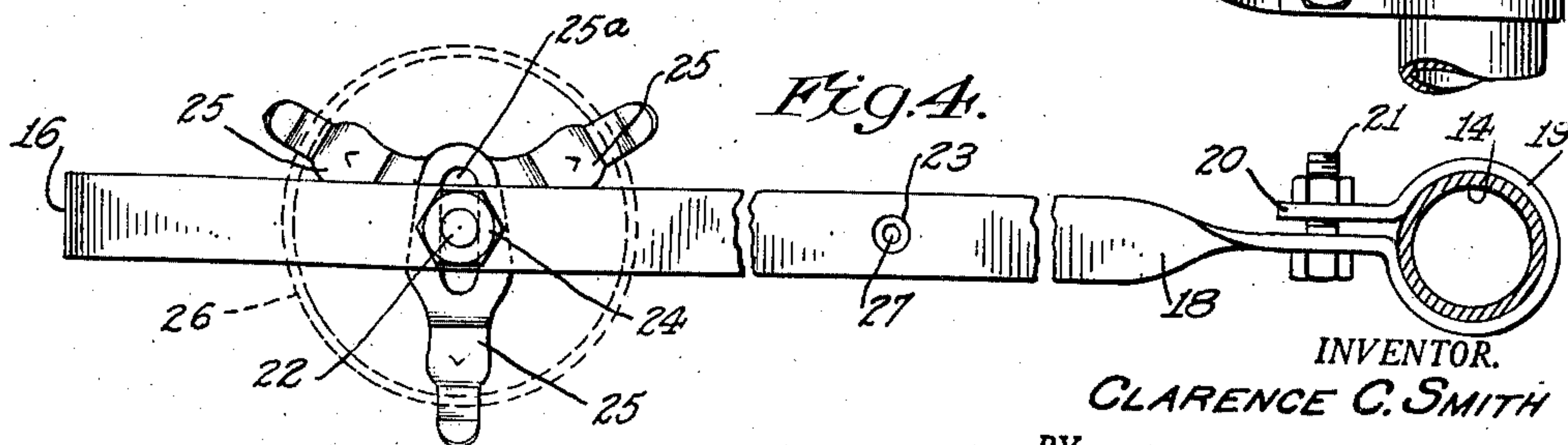


Fig. 4.



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THREAD STAND FOR SEWING MACHINES

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This invention relates to an improved arrangement for supporting cones or spools or other packages of thread and for guiding the thread in proper relation to the stitch forming devices of a sewing machine.

An object of the invention has been to provide a combined thread stand and thread guide in direct association with the support for a sewing machine, such stand being so constructed that it may readily be used inter-changeably in either of two positions, i. e. to support the thread packages from below or to suspend them from above.

Another object has been to provide a combined thread stand and guide of the character indicated which is light but sturdy, inexpensive to construct and convenient to use.

A feature of the invention is the employment of a simple C-frame adapted to be applied to the tubular conduit commonly provided on a sewing machine table for leading the wires from an overhead line to the driving motor mounted beneath the table top. The upper and lower arms of the C-frame are adapted to provide the thread supporting and thread guiding means. By a reversible mounting of the C-frame the thread packages may be either supported by the lower arm or suspended from the upper arm. This enables the use of the stand interchangeably with either hard or soft threads. Thus, for hard-finish threads the arm of the frame provided with appropriate package retaining elements is positioned lowermost so that the thread will be drawn upwardly to the guide arm. For relatively soft threads, on the other hand, the package retaining arm will be placed uppermost so that the thread will be drawn downwardly toward the guide arm; the removal of the thread is thus assisted by gravity.

Other objects, features and advantages of the invention will appear from a detailed description of an illustrative form of the same which will now be given in conjunction with the accompanying drawings, in which:

Fig. 1 is a perspective view showing the application of a thread stand, embodying the invention, to a table supporting a sewing machine.

Fig. 2 is a similar perspective view of the upper portion of the thread stand, showing the parts in inverted relation.

Fig. 3 is an enlarged view in side elevation, but with portions broken out, showing one of the C-frame members of the improved thread stand applied to a portion of a vertical standard, and

Fig. 4 is a top plan view of the construction

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shown in Fig. 3, the vertical standard being shown in section.

For purposes of illustration, the invention has been shown applied to a table structure 10 supporting a sewing machine 11 on its upper surface and having beneath the table top a combined motor and clutch unit 12 forming a conventional electro-motor transmitter for driving the sewing machine. The latter may be of any suitable character, but for purposes of illustration there has been selected a machine constructed largely in accordance with the disclosure of the Christensen et al. Patent No. 1,741,095, granted December 24, 1929. Power may be supplied to the motor of the transmitter unit by means of an electric cable 13 which extends downwardly from an overhead line through the hollow interior of a vertical, tubular standard 14. This standard may be screw-threaded at its lower end for engagement with a supporting base 15 secured by screws or the like to the upper surface of the table top. It will be understood that an opening is provided through the table top in line with the hollow, tubular standard so that the cable may extend to the driving motor of unit 12.

The improved thread stand of the present invention comprises one or more C-shaped frame members, two such members being shown and designated 16 and 17. These members may be of identical construction and a description of one will, therefore, suffice for both. Each member is preferably formed of bar stock suitably bent into the desired shape. This shape, as indicated, is of generally C-form, providing a central vertically disposed portion with horizontally extending upper and lower arms. Adjacent its free end, each of these arms is twisted about its axis through an angle of 90°, as indicated at 18, and the portion of the bar stock beyond this twist is curled to provide a collar portion 19 adapted to fit snugly around the standard 14. Beyond the collar portion a small, straight section 20 is provided which is adapted to receive a bolt 21 which also passes through a portion of the bar adjacent the twist 18. The arrangement is such that a split collar construction is produced which permits clamping of the collar in any set position about the vertical standard. Thus, the C-frame member may be adjusted both angularly and vertically with respect to the standard.

Depending from the upper arm of the C-frame member, as shown in Fig. 3, there is provided a suitable thread package retainer. This may be of any appropriate construction, depending upon the character of the thread package employed.

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If the package is in the form of a cone, the re-
tainer may comprise a downwardly extending
spindle 22 which is preferably threaded at its
upper end to engage a threaded opening 23 in
the upper arm of the frame. A nut 24 may be
provided above the arm to secure the spindle firm-
ly in place. Around the spindle there may be
provided a series of spring members 25, each hav-
ing a base portion with an elongated slot 25a
adapted to receive the spindle and capable of
radial adjustment with respect thereto. These
members, three being shown, may be suitably po-
sitioned and clamped between a collar 25b on the
spindle and the under surface of the arm. Each
member is suitably bent, as indicated, in substan-
tially U-shaped form and so as to provide a sup-
porting shoulder 25c for the base of the thread
cone 26. Moreover, each of the retaining mem-
bers is also provided with a sharp teat or pro-
jection 25d adapted to grip the inner wall of the
cone. The construction is such that a cone may
readily be slipped over the spindle 22 and the
main U-shaped portions of the members 25, these
portions being resilient and constituting yielding
spring fingers. The cone will be retained by the
projections 25d until it is released by an inward
pressure upon the free ends 25e of the spring
fingers. While only one of the package retaining
devices is illustrated in Fig. 3, it will be under-
stood that two or more will ordinarily be provided
on the upper arm of each C-frame, each being
constructed and mounted in the same manner.

Directly in line with the axis of the spindle
22, there is provided in the lower arm of the C-
frame 16 (Fig. 3) a thread guiding opening 27
through which the thread is passed as it is drawn
from the cone. It will be understood that a guide
opening of this character is provided for each
of the thread-package retaining spindles.

As indicated alternatively in Figs. 1 and 2, the
frame members 16 and 17 may be applied to the
standard 14 in either of two positions in in-
verted relation with respect to each other. Thus,
the thread retaining devices may be carried by
either the upper or the lower arm of the frame.
If desired, one frame may be retained in one po-
sition and the other frame in the other position.
This would be the case, for example, if one type
of thread were employed for the needles of the
sewing machine and another type of thread were
employed for the complementary stitch forming
means. Thread having a hard finish should be
supported by the lower arm of the frame where-
as thread having a soft finish should be suspend-
ed from the upper arm of the frame in order to
reduce, as far as possible, the resistance to the
pull-off of the thread. The softer thread will
remain on the cone even though it is inverted in
the position shown in Fig. 1. Harder finish
threads, however, would have a tendency to fall
by gravity from such an inverted cone so that
the arrangement of Figure 2 should be used for
these threads.

While an illustrative form of the invention has
been described in considerable detail, it will be
understood that numerous changes may be made
in the form of arrangement of the various parts
without departing from the general principles and
scope of the invention.

I claim:

1. A thread stand for sewing machines and the
like comprising a vertical supporting standard
of uniform cross-sectional contour, a unitary
combined thread-package holding and thread
guiding element of generally C-shape, including

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thread package gripping means, means at both
of the free ends of said element for mounting
said element on said standard, said mounting
means being constructed and arranged for
mounting of said element on said standard in
either thread package supporting or thread pack-
age suspending position.

2. A thread stand for sewing machines and
the like comprising a vertical standard having
a portion of circular cross section, a C-shaped
thread package holding and thread guiding ele-
ment, and means at both of the free ends of
said element for mounting said element on said
portion of said standard with capacity for ad-
justment thereon both angularly and axially of
said standard.

3. A thread stand for sewing machines and
the like comprising a vertical standard, a C-
shaped thread package holding and thread guid-
ing element, and means at both of the free ends
of said element for mounting said element on
said standard, one arm of said element being
provided with thread package gripping means
and the other arm being provided with a thread
guiding eye disposed in actual alignment with a
thread package on said gripping means.

4. A thread stand for sewing machines and
the like comprising a vertical standard having a
portion of circular cross section, a C-shaped
thread package holding and thread guiding ele-
ment, and means at both of the free ends of
said element for mounting said element on said
portion of said standard with capacity for ad-
justment thereon both angularly and axially of
said standard, one arm of said element being
provided with thread package gripping means
and the other arm being provided with a thread
guiding eye disposed in axial alignment with a
thread package on said gripping means.

5. A thread stand which comprises a vertical
standard, a C-frame having clamping means at
the free ends of the arms thereof whereby said
frame is adjustably mounted on said standard,
one of the arms of said frame being adapted to
serve as a thread guide, and thread package
retaining means provided on another arm of
said frame.

6. A thread stand which comprises a vertical
standard, a plurality of C-frame members each
having clamping means at the free ends of both
of the arms thereof whereby said frames are
mounted on said standard, said frames being
adapted to be mounted at substantially the same
elevation, an arm of each of said frame mem-
bers being adapted to serve as a thread guide, and
thread package retaining means provided on an-
other arm of each frame member.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
1,885,114	Klein	Nov. 1, 1932
2,000,900	Epps	May 14, 1935
1,888,865	Pawsat	Nov. 22, 1932
1,060,198	Maitland	Apr. 29, 1913
1,074,553	Maitland	Sept. 30, 1913
1,521,636	Long et al.	Jan. 6, 1925
2,232,677	Bouziane	Feb. 25, 1941
1,166,815	Cook	Jan. 4, 1916