

Feb. 24, 1953

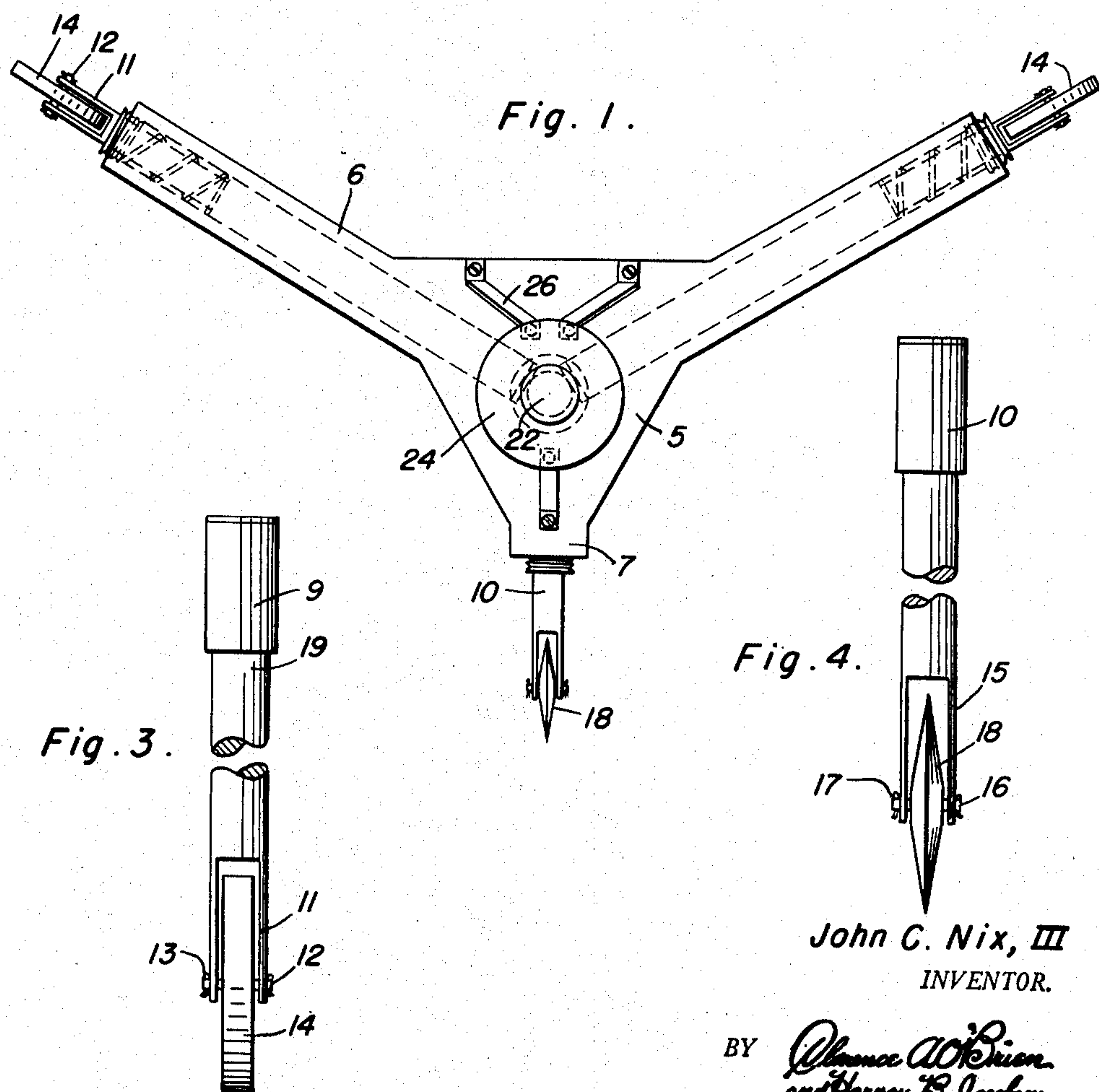
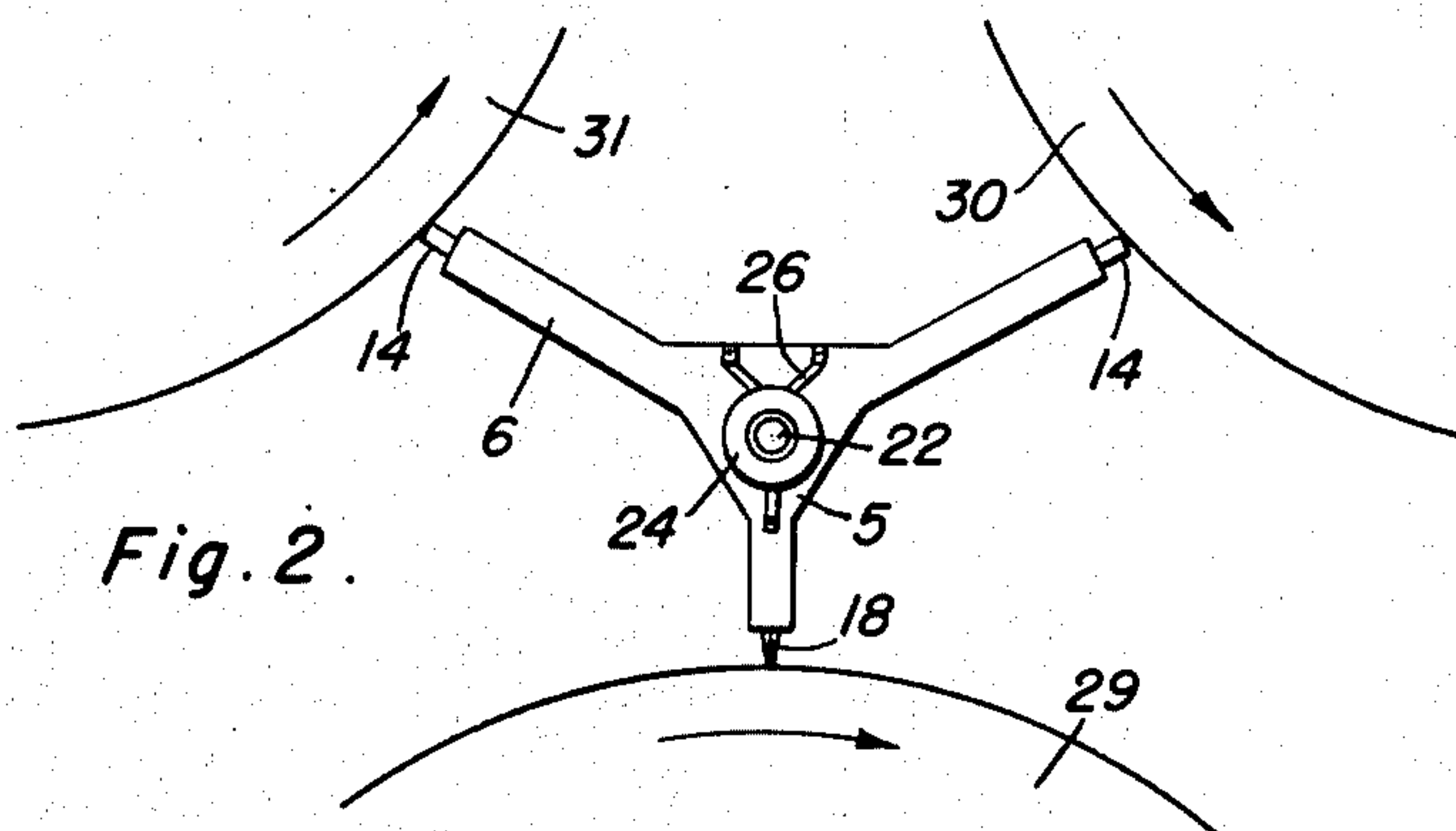
J. C. NIX, III

2,629,182

PAPER CUTTER FOR PAPER MILL DRYING ROLLERS

Filed Feb. 4, 1948

2 SHEETS—SHEET 1



John C. Nix, III
INVENTOR.

BY *Alvanee A. O'Brien*
and Harvey B. Jacobson
Attorneys

Feb. 24, 1953

J. C. NIX, III

2,629,182

PAPER CUTTER FOR PAPER MILL DRYING ROLLERS

Filed Feb. 4, 1948

2 SHEETS—SHEET 2

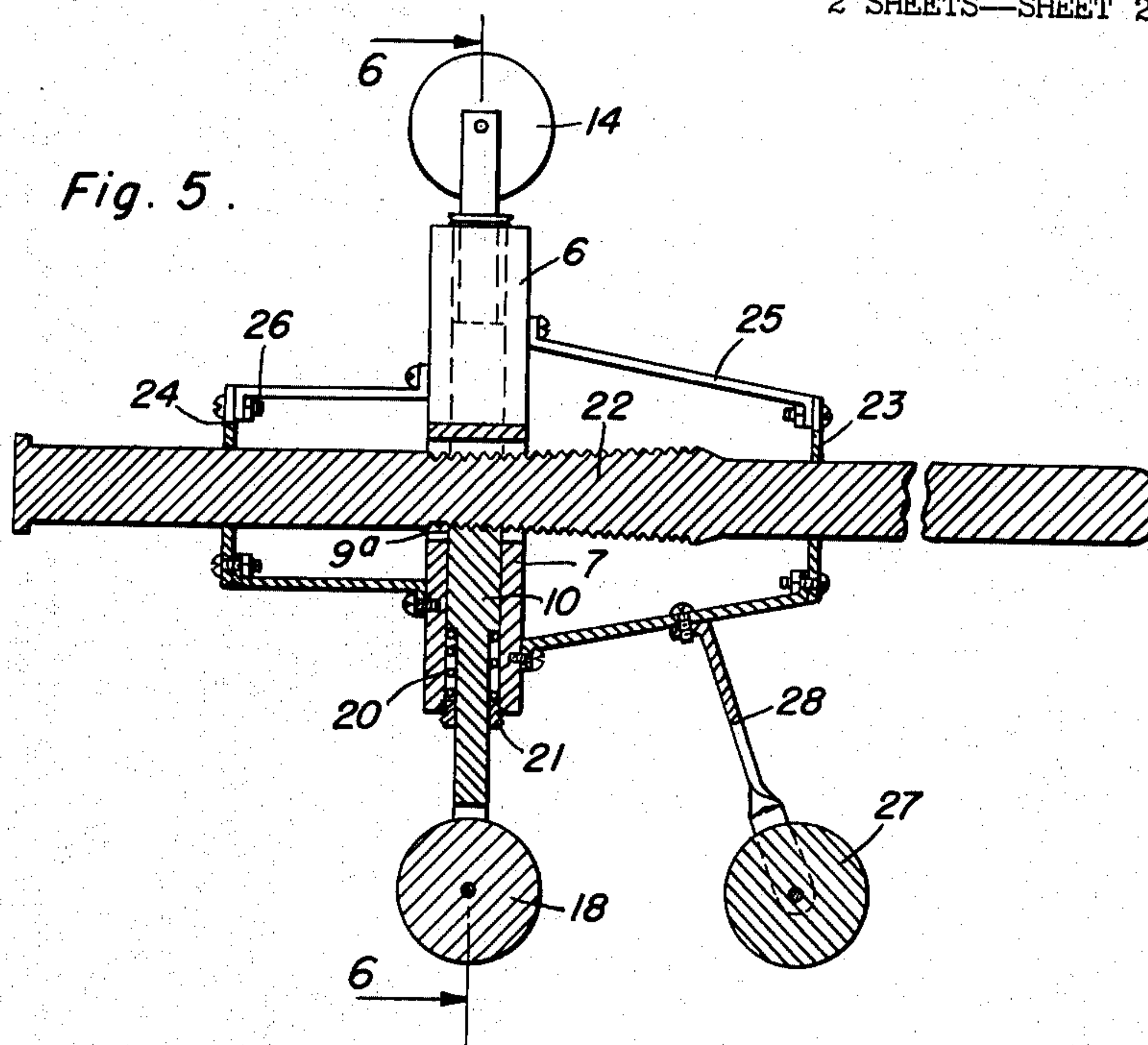


Fig. 5.

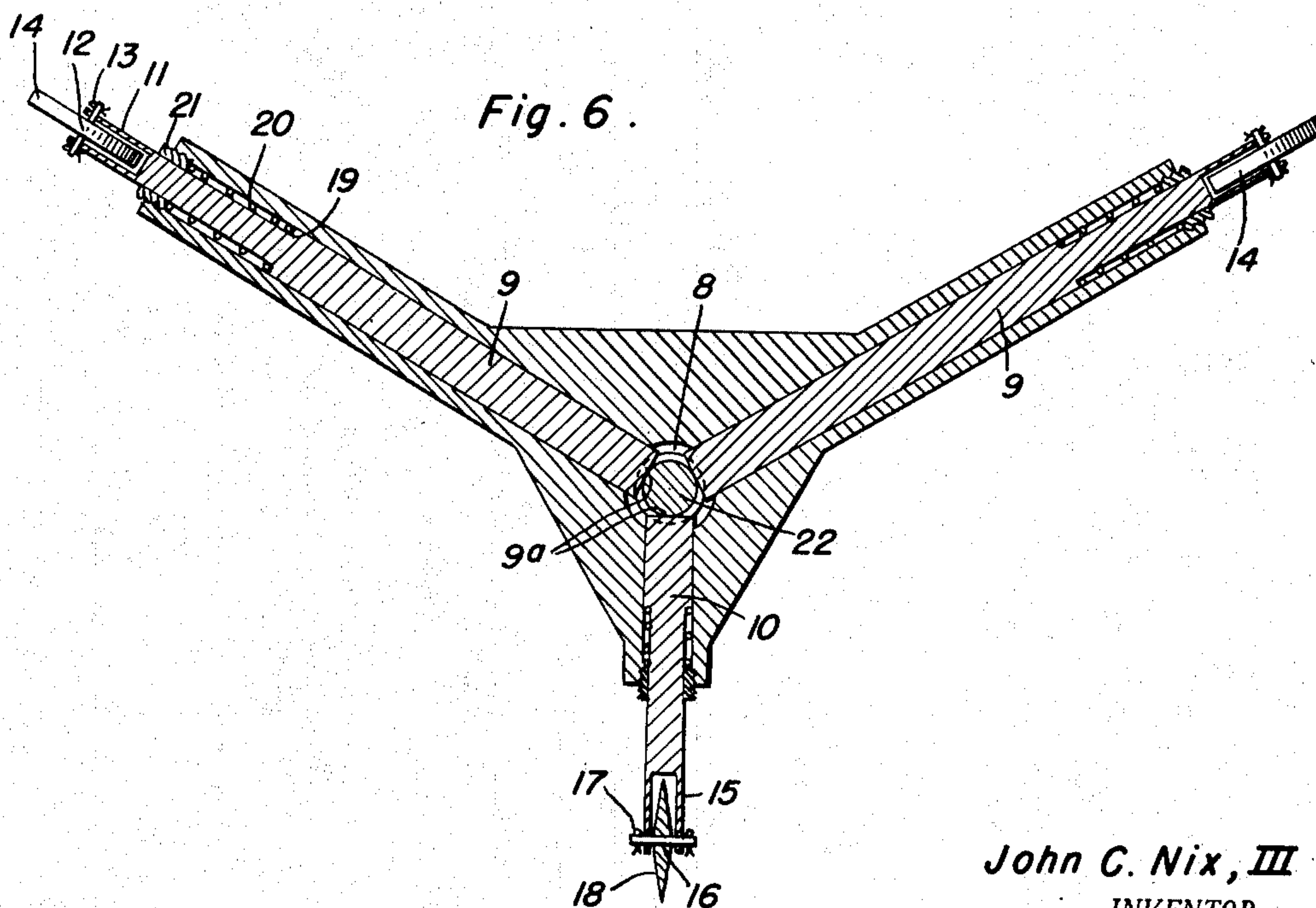


Fig. 6.

John C. Nix, III
INVENTOR.

BY *Charles W. O'Brien*
and Harvey E. Jacobson.
Attorneys

UNITED STATES PATENT OFFICE

2,629,182

PAPER CUTTER FOR PAPER MILL DRYING
ROLLERS

John C. Nix, III, Tuscaloosa, Ala.

Application February 4, 1948, Serial No. 6,327

9 Claims. (Cl. 34—85)

1

The present invention relates to new and useful improvements in paper cutters and more particularly to paper cutters for use in cutting broken or torn paper from the drying rollers of paper mills.

During the manufacture of paper in paper mills the paper is run over a series of driers or rollers for the purpose of drying the paper. When the continuous paper sheet is broken or torn the loose paper generally wraps itself around one or more of the rollers or driers and must be removed before the paper is again fed to the rollers.

The drying rollers or cylinders are usually mounted in a triangular arrangement and not always accessible for removing the broken or torn paper therefrom. Accordingly it is an object of the present invention to provide a paper cutter which may be moved longitudinally between the rollers and embodying a rotatable cutter which may be positioned to travel longitudinally along any one of the rollers to cut the paper therefrom to facilitate removal of the torn paper.

A further object of the invention is to provide a device of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is an end elevational view of the cutter;

Figure 2 is a similar view showing the cutter in use;

Figure 3 is an enlarged view in elevation of one of the guide rollers and mounting therefor;

Figure 4 is a similar view of the rotatable cutter and mounting therefor;

Figure 5 is a longitudinal sectional view, and

Figure 6 is a transverse sectional view taken substantially on a line 6—6 of Figure 5.

Referring now to the drawings in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention the numeral 5 designates a flat substantially triangular shaped body having a pair of hollow arms 6 projecting from two of the corners of the body and a relatively short hollow arm 7 projecting from the third corner of the body,

2

the arms extending radially from an opening 8 in the body.

Slidably mounted in each of the arms 6 is a plunger 9 forming a wheel mounting and slidably mounted in the arm 7 is a relatively short plunger 10 also forming a wheel mounting. The outer ends of the plungers 9 are bifurcated as shown at 11 and provided with transverse pins 12 removably secured in position by cotter keys or the like 13 and on which a guide roller 14 is journaled. The outer end of the wheel mounting 10 is likewise bifurcated as shown at 15 and provided with a transverse pin 16 removably secured in position by cotter keys 17 and on which a rotatable cutter 18 is journaled. The inner ends of the plungers are formed with threads 9^a.

The outer portions of the wheel mountings 9 and 10 are reduced in diameter to provide a shoulder 19 against which the inner end of a coil spring 20 is positioned, the spring being held under tension in the hollow arm by a hollow plug 21 threaded in the outer end of the arm and through which the wheel mounting is slidable.

The inner ends of the wheel mountings 9 and 10 project into the central opening 8 in the body for engagement by a tapered feed screw 22 slidable in the opening.

The ends of the feed screw 22 project outwardly from the opposite sides of the body 5 and are smooth for sliding movement in front and rear guides 23 and 24 supported respectively forwardly and rearwardly of the body 5 by brackets 25 and 26.

A guide roller 27 is supported under the bracket 25 by a downwardly extending arm 28.

In the operation of the device a group of paper drying rollers or cylinders is designated at 29, 30 and 31, the cylinder or roller 29 being positioned under the cylinders or rollers 30 and 31 as shown in Figure 2 of the drawings.

The paper cutter is moved longitudinally between the rollers 29, 30 and 31 with the guide rollers 14 carried by two of the arms 6 or 7 traveling along two of the drying rollers and the rotating cutter 18 traveling along the third drying roller to cut the paper therefrom.

The springs 20 retract the wheel mountings 9 and 10 and the feed screw 22 projects the wheel mountings to adjust the guide rollers 14 and cutter 18 into an effective cutting position.

The guide rollers 14 and cutter 18 may be interchangeably mounted on the wheel mountings 9 and 10 to position the cutter for cutting the paper from either of the drying rollers 29, 30 or 31.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the construction, operation and advantages of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A paper cutter comprising a body having a plurality of hollow arms projecting radially therefrom, a wheel mounting slidable in each arm, a feed screw in the body for projecting the mountings and providing a hand grip for moving the body forwardly and backwardly between a group of triangularly arranged paper drying rollers, spring means retracting the mountings, and wheels journaled at the outer ends of the mountings, at least one of the wheels constituting a cutter.

2. A paper cutter comprising a body having a plurality of hollow arms projecting radially therefrom, a wheel mounting slidable in each arm, means working in the body at the inner ends of the mountings for projecting the mountings, spring means retracting the mountings, and wheels journaled at the outer ends of the mountings and adapted to travel longitudinally of and with the body centered between a group of triangularly arranged paper drying rollers, at least one of the wheels constituting a cutter.

3. A paper cutter comprising a carriage adapted to travel longitudinally between a group of triangularly arranged paper drying rollers, said carriage including a plurality of arms projecting radially from the longitudinal axis of the carriage, a cutter carried at the outer end of at least one of the arms for cutting paper from one of the rollers, wheels mounted at the outer ends of the remaining arms to travel along the surface of the remaining rollers to center the carriage between the rollers and a handle on the carriage to move the carriage back and forth along the rollers.

4. A paper cutter comprising a manually manipulated carriage adapted to travel longitudinally between a group of triangularly arranged paper drying rollers, said carriage including a plurality of arms projecting radially from the longitudinal axis of the carriage, a rotary cutter mounted at the outer end of at least one of the arms for cutting paper from one of the rollers, and wheels mounted at the outer ends of the remaining arms to travel along the surface of the remaining rollers to center the carriage between the rollers.

5. A paper cutter comprising a manually manipulated carriage adapted to travel longitudi-

nally between a group of triangularly arranged paper drying rollers, said carriage including a plurality of arms projecting radially from the longitudinal axis of the carriage, a rotary cutter mounted at the outer end of at least one of the arms for cutting paper from one of the rollers, wheels mounted at the outer ends of the remaining arms to travel along the surface of the remaining rollers to center the carriage between the rollers, and means carried by the carriage for radially adjusting the cutter and wheels on the arms.

6. The combination of claim 4, wherein said arms are tubular, and mountings for the cutter and wheels slidably carried by the arms.

7. The combination of claim 4, wherein said arms are tubular, mountings for the cutter and wheels slidably carried by the arms, spring means retracting the mountings, and means carried by the carriage projecting the mountings to hold the cutter and wheels in contact with the rollers.

8. The combination of claim 4, wherein said arms are tubular, mountings for the cutter and wheels slidably carried by the arms, spring means retracting the mountings, and a tapered member movable longitudinally in the carriage and engaging the inner ends of the mountings to project the cutter and wheels into contact with the rollers.

9. The combination of claim 4, wherein said arms are tubular, mountings for the cutter and wheels slidably carried by the arms, spring means retracting the mountings, and a tapered feed screw working in the carriage and engaging the inner ends of the mountings to project the cutter and wheels into contact with the rollers.

JOHN C. NIX, III.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
67,601	Stephen	Aug. 6, 1867
116,136	Aguayo	June 20, 1871
588,477	Robards	Aug. 17, 1897
772,062	Roush	Oct. 11, 1904
821,816	Myrick	May 29, 1906
837,426	Seymour	Dec. 4, 1906
837,614	Dierzen	Dec. 4, 1906
890,795	Putsch	June 16, 1908
957,219	Kukkuck	May 10, 1910
1,344,173	Carrier	June 22, 1920
1,549,791	North	Aug. 18, 1925
1,665,644	Sponsel	Apr. 10, 1928
2,506,366	Korn	May 2, 1950

FOREIGN PATENTS

Number	Country	Date
162,805	Germany	Sept. 13, 1905