# I. Construction Innovation Forum • NOVA Award Nomination

## Instructions

**Step 1** Enter a Descriptive Name for the Process/Method/Technique you are nominating on line A of this page.

**Step 2** Complete this page.
"I. Construction Innovation Forum • NOVA Award Nomination"
a. Be sure to provide original signatures in Section B and E on this page. Your nomination cannot be reviewed without them.
b. If you need additional space for names and addresses you may attach additional pages for names and address information. You may attach extra pages only for sheet I.

**Step 3** "II - Innovation Description" — attach one (one only) 8-1/2" X 11" page that gives a succinct written description of the innovation. Put the name of the innovation at top of page. Tell us what you think is innovative about this. You should include:
- What the innovation is
- Why it is innovative
- What it changed or replaced
- Where and when it originated, has been used, and is expected to be used in the future
- If the nomination is for an innovative project, specifically identify its innovation.

Please type, with 1" margins, 10 characters per inch, 6 lines per inch.

**Step 4** "III - Innovation Illustration" — attach one (one only) 8 1/2" X 11" page that contains one or more photographs, drawings, tables, graphs, clauses, etc., that visually describe the innovation. Do not submit more than one page of visuals. The jurors will see only one sheet for review. Put the name of the innovation at top of page.

**Other** You must submit 12 (twelve) sets of sheets I, II and III (a total of 36 pages)

Nominations are due September 15 mailed or delivered to:
**The Construction Innovation Forum,** 1000 Campus Drive, Suite 100, Ann Arbor, MI, USA 48104-6792, Phone: 313-995-1855, Fax: 313-995-5002

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**A. Name of Innovation:** The Collom System "The World's Most Advanced Duct Cleaning System"

**B. Person(s) and /or Organization(s) Primarily Responsible for the Innovation (Those to whom NOVA Award should be presented.)**

| | | | |
|---|---|---|---|
| Name: | Armand Castellani | Jack Barrett | Steven Nanula |
| Title: | Chairman of the Board | CEO/President | Director |
| Affiliation: | Collom International, Inc. | Collom International, Inc | Collom International, Inc. |
| Address: | 305 Cayuga Rd, Ste 140 | 305 Cayuga Rd, Ste 140 | 305 Cayuga Rd, Ste 140 |
| | Buffalo, NY 14225 | Buffalo, NY 14225 | Buffalo NY 14225 |
| Phone: | 716-626-1600 | 716-626-1600 | 716/1626-1600 |
| Signature: | Armand Castellani | JM Barrett | Stan V. Nanula |

(Signature(s) indicate acceptance of the nomination and consent to have CIF research and make presentations on the innovation for the purpose of jurying and publicizing awards.)

**C. Other Primary Sources of Information on the Innovation: (in addition to the persons nominated above.)**

| | | | |
|---|---|---|---|
| Name: | Johan Faxon | Goran Andersson | |
| Title: | Consultant | Consultant | |
| Affiliation: | Air Ducks, Inc. | Air Ducks, Inc. | |
| Address: | 21 Crown Point Ln. | 21 Crown Point Ln. | |
| | Williamsville, NY 14221 | Williamsville, NY 14221 | |
| Phone: | 716-689-5800 | 716-689-5800 | |

**D. Independent Reference(s) familiar with the use of the Innovation**

| | | | |
|---|---|---|---|
| Name: | Mike Lorion | Colin Harren | Larry Brady |
| Title: | President | President | President |
| Affiliation: | Airmax Service Corp. | Penn Air Group | Indoor Air Professionals, Inc |
| Address: | 5875 SW 69th Street | 5941 Lakeshore Dr | 7387 Deep Run, Ste 322 |
| | South Miami, FL 33143 | Cypress, CA 90630 | Bloomfield, MI 48301 |
| Phone: | 305-665-3238 | 714-220 9091 | 810-540-4410 |

**E. Person(s) making nomination:**

| | | | |
|---|---|---|---|
| Name: | Larry Brady (Phoned 9/30/96 RAB) | | |
| Title: | | | |
| Affiliation: | | | |
| Address: | | | |
| Phone: | | | |
| Signature: | | | |

(Signature(s) indicate familiarity with the the innovation and signify that information contained in the nomination is correct to the best of one's knowledge.)

INDOOR AIR PROFESSIONALS

1500 Woodward Avenue, Suite 335, Bloomfield Hills, Michigan 48304 Ph: 810 540-4410 Fax: 810/646-2268

David Hamilton 9/12/96

Thanks you for this opportunity to participate in the Nova Awards.

At some time in the near future I would like to meet with the appropriate people within your company to discuss how we could work with you to serve your clients. As I briefly touched on with you two of the most critical areas are schools and hospitals, which represent, as you pointed out, are a large portion of your business.

Thank you for your time.

Sincerely

Larry Bradley President

## *WARNING: DIRTY DUCTS CAN BE HAZARDOUS TO YOUR HEALTH..AND YOUR REPUTATION*

Polluted ventilation systems have always been a problem for landlords and people who live and work in buildings. Particularly in cases where 20 or 30 years of dirt has been allowed to accumulate.

Despite your best efforts, perhaps a facility you own, manage or service has gained a reputation for having "bad air."

The COLLOM System was developed to effectively prevent and alleviate air quality problems which may affect your tenants--and your business.

## *PRESENTING SUPERIOR SANITATION*

The Collom System provides advanced, high-tech, sanitized cleaning for all types of air ducts regardless of their dimensions, shape or form.

Until now, there has not been a truly efficient, economically feasible method for cleaning ventilation systems. Flue brushes, rags, and industrial robots have all proven either unsatisfactory or cost prohibitive.

What sets the Collom System apart from all others is its advanced design, featuring a unique, air pressured cleaning head. This head works like an air knife...traveling at close range to the walls of the air duct throughout the entire system.

Dirt, debris and contaminants are removed from the walls with a speed and efficiency superior to any other method. The dirt is simultaneously collected by a high capacity vacuum cleaner connected directly to the main air duct channel.

The flexibility and design of COLLOM means that the time and cost for cleaning ventilation systems is greatly reduced for building owners, managers and contractors.

## *UNSURPASSED CONVENIENCE AND RESULTS*

- **SELF-PROPELLED**
  No need for additional mechanical propulsion through duct
- **FLEXIBLE**
  Changes in duct size or form, sharp bends and vertical rises create no problem
- **THOROUGH**
  Cleaning solution and disinfectant can be dispensed after initial cleaning for unsurpassed sanitation
- **EFFECTIVE FOR POST FIRE AND PESTICIDE REMEDIATION**

## *CONSIDER THESE FACTS*

- IAQ litigation increases every year; and recent IAQ lawsuits have commanded hefty settlements. Businesses are faced with ever more stringent responsibilities in providing employees with a safe work environment;
- It is estimated that poor air quality directly results, on an annual basis, in $1 billion in medical costs and $60 billion in employee sick leave and lost production.

## *THE SOLUTION*

The COLLOM System will provide you with a level of cleaning quality, efficiency and convenience never before achieved--at a price you can afford.

Contact us today for a free, no obligation facility inspection and additional information. See for yourself how you can **breathe easier** with the COLLOM System.

The COLLOM duct cleaning system is protected under United States and International patents.

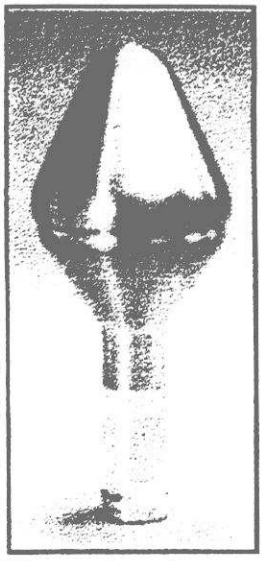
Offers to license the COLLOM system may be considered for specific locations. For further information, contact Collom International, Inc. at 1-800-546-5586.

# NOZZLE DATA SHEET

The Collom Nozzles provide agitation while mantaining continuous contact in a controlled manner with the duct surfaces. This ensures highly effective dislodging of debris from the duct walls. High volume (75 CFM/110 PSI) compressed air is required to operate these nozzles. Some of the nozzles can also be used to dispense a sanitizer solution on the interior surface of the duct walls.

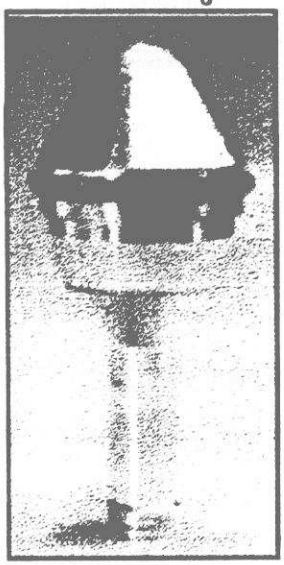
## COMMERCIAL & INDUSTRIAL APPLICATIONS

### No. 1 Fixed/Rear Blowing



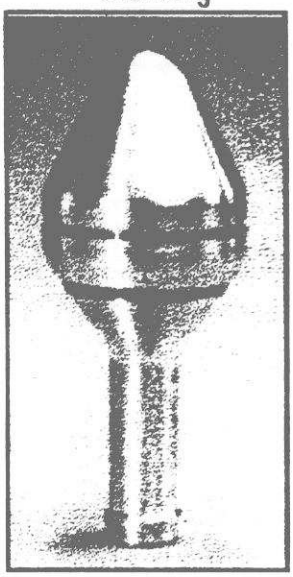
- Rectangular and oval ductwork
- Round ductwork with obstructions
- Dispense sanitizing solution in sheet metal ductwork

### No. 2 Rotating/Rear Blowing



- Round ductwork up to 28" in diameter.
- Propelled by an internal turbine that is driven by the air flow

### No. 3 Fixed/Forward Blowing



- Rectangular and round ductwork
- Used to "PUSH" the debris forward from branches and verticals into themain duct trunk

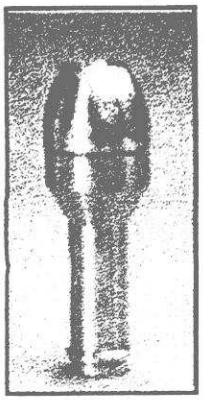
### No. 4 Fixed/Rear Blowing



- Lightweight Nozzle for:
  - Fiberglass duct
  - Fiberglass-lined duct
  - Flexible duct
  - Dispensing sanitizing fluids

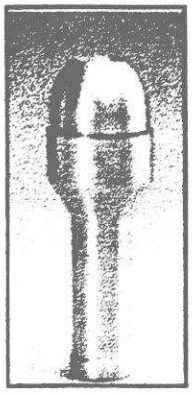
## RESIDENTIAL & SPECIAL APPLICATIONS

### No.5 Fixed/Rear Blowing



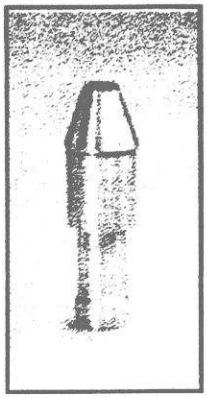
Residential rectangular and round ductwork
Can also be used for various commercial applications
Capable of dispensing sanitizing fluids

### No. 6 Fixed/Forward Blowing



Residential rectangular and round ductwork
Pushes debris forward from registers into the main duct trunk

### No. 7 Special Applications



Designed for airplanes, trains, central vacuum units or any small diameter ductwork

Collom International, Inc.
305 Cayuga Road, Suite 140
Buffalo, New York 14225-1939
1-800-546-5586 · 716-626-1600 · fax:716-631-8124

The Collom™ Duct Cleaning System is protected under United States and International patents.

**INVESTIGATOR'S SUMMARY**
Nomination 9718
Investigator: E. Tons

# THE COLLOM™ SYSTEM FOR CLEANING AIR DUCTS

## The Innovation

The COLLOM™ System is a method to clean all kinds of air ducts using high pressure air directed through a flexible hose to a special nozzle that moves through the duct. The nozzle is self-propelled and can move through ducts that change size or form. It can be directed in any direction within the duct, and can traverse sharp bends and vertical rises. Only a small hole, one and one half to two inches in diameter, is cut into the duct to admit the nozzle.

The nozzle is designed so that its head rotates near the duct walls. Emerging air jets not only propel the nozzle, but act like an air knife to remove dirt, debris, and contaminates. Negative air pressure is maintained in the duct system during cleaning, and all the debris is blown into the main duct from which it is removed by a large vacuum machine The vacuum machine uses special filters to prevent recirculation of the deposits.

There are a number of different nozzles that can be used. The choice of nozzle depends upon the configuration of the duct system, the sizes of the ducts and whether special treatments are needed. Some cleaning jobs require the ducts to be sanitized, and some of the nozzles allow sanitizing fluids to be sprayed into the cleaned duct.

Safety is achieved by applying and controlling the negative pressure in the ducts. Photographs are taken after cleaning to ensure that all deposits have been removed.

## Background of Innovation

The inventor of the COLLOM™ System is Mr. Johan Faxon who was a race car engineer and general inventor. In the late 1980s, his friends in the ventilation business were complaining about problems in cleaning air ducts. Mr. Faxon became interested and realized the need for effective cleaning equipment. Existing equipment such as brushes and other chimney-sweep style equipment simply did not work well enough. Mr. Faxon, who suffers from allergies, decided to develop a technology that could effectively clean and sanitize the ductwork of a ventilation system. He completed the first set of nozzles and filed his first patents in 1989.

Mr. Goran Andersson, a mechanical engineer living in the same city, helped Mr. Faxon with compressors and testing machines, and became Faxon's business partner. They promoted the system and set up a network of qualified licensees in Sweden. After about four years of use in Sweden and other countries in Europe, Faxon and Andersson decided to introduce the COLLOM™ System to the United States. They teamed up with a group of investors in the US and established COLLOM™ International, Inc. in Buffalo, NY, in May 1993. At that time, the issue of indoor air quality (IAQ) was receiving much publicity and the US market for duct cleaning had the greatest potential for rapid growth.

COLLOM™ International controls the worldwide licensing of the patented COLLOM™ technology, trademarks, and related trade secrets. They have developed a network of qualified licensees around the world. At the present, COLLOM™ International has eleven authorized licensees in the United States. The have Master Licensees in the following countries: Canada, England, Germany, Italy, Kuwait, Malaysia, Singapore, Spain, and Sweden. COLLOM™ International also trains new licensees and provides technical support to all users of the system.

**Application**

The COLLOM™ nozzle and the air hose are very easy to operate through small and large ducts, sharp turns and up to 100 feet in any direction. The initial equipment costs may be higher than with old methods (Skipper balls, brushes, air whips).

The COLLOM™ System has been used extensively. More than 500 jobs have been done since its beginning about 7 years ago. Projects have been accomplished for educational institutions, fire restorations, office buildings, manufacturing buildings, ships and in a variety of miscellaneous applications.

**Notes on Nominated Persons**

Mr. Armand Castellani is Chairman of the Board of COLLOM™ International, Inc. He lives most of the time in Florida, but he has heavy monetary investment in COLLOM™. He is very important to the organization which is why his name is listed first on the nomination form. He has very little interest in the technical details of the system.

Mr. Jack Barrett is the Chief Operating Officer of COLLOM™ International, Inc. He is the main driving force for the company.

Mr. Steven Nanula is the Director of Operations of COLLOM™ International, Inc. He does general administrative work for the company.

Mr. Johan Faxon is the inventor of the COLLOM™ System. He does not speak English and resides in Sweden.

Mr. Goran Andersson is now the Director of Marketing of COLLOM™ International outside U.S. He was associated with Mr. Faxon in the development of the system.

**Opinions of Outside Persons**

There are four testimonials attached from :

Mr. Colin Hurren
Chief Executive Officer
The Penn Air Group
Cypress, California

Mr. Michael Lorion
Airmax Service Corporation
South Miami, Florida

Mr. Gus Mitropoulos, P.Eng.
General Manager
Indoor Air Professionals Inc.
Markham, Ontario, Canada

Mr. Bob Coughlan
Indoor Air Professionals
East Setauket, New York

**Investigator's Comments**

From the investigation, it appears that Mr. Faxon and Mr. Andersson were the inventors and should have been listed as Persons Primarily Responsible on the nomination form.

THE PENN AIR GROUP

5941 LAKESHORE DRIVE
CYPRESS, CA 90630
714-220-9091
FAX 714-220-1390
http://www.pennairgroup.com

September 12, 1996

Mr. Jack Barrett
Collom International
305 Cayuga Road, Suite 140
Buffalo, NY 14225-1439

Dear Jack,

As you know, we have become one of the country's leading HVAC cleaning companies, and as such, we have used many different methods of cleaning. Since we have now used the Collom system extensively in medical facilities, schools and high-rises, we can conclude that the Collom technology is by far the most superior cleaning method available in the United States today.

By using the Collom system we can now provide our clients a better quality service at a much lower cost. I can see that the Collom technology will soon be accepted as the industry standard.

Kind regards,

Colin Hurren
Chief Executive Officer

PENN AIR CONTROL

MEDICAL AIR CARE

Member of NADCA

SAN DIEGO

LAS VEGAS

SEATTLE

SAN FRANCISCO

TOTAL P.02

AIRMAX

AIRMAX SERVICE CORPORATION

Indoor Air Quality Maintenance
HVAC Testing, Cleaning, Treatment

5875 S.W. 69th Street
South Miami, Florida 33143
Telephone (305) 665-3238
1-800-824-7629
Fax (305) 669-1080
FL Lic. CA CO55801
CA CA41154

September 7, 1996

Mr. Jack Barrett
Collom International, inc.
305 Cayuga Road, Suite 140
Buffalo, New York 142235-1939

RE: FIELD TEST OF COLLOM SANITIZING TECHNOLOGY

Dear Jack,

Congratulations to you and everyone at Collom involved in the development of the air conveyance system sanitizing device. I want to take this opportunity to report the tremendous success we had field testing the technology at a university we contracted with to sanitize the air conveyance systems in one of their buildings.

The environmental system serving the building consisted of two 30,000 CFM, high pressure dual duct heating and air conditioning systems delivering conditioned air to forty eight mixing boxes. The conditioned air from the mixing box is controlled by thermostat in each classroom and delivered through low pressure ductwork through sidewall diffusers. The high pressure ductwork leaving the air handling unit was thirty six inches in diameter and reduced to nineteen inches through a series of transitions. There was 4,500 linear feet of high pressure ductwork in the building, including the four trunk lines and connecting branch lines.

Four companies were asked to bid for the project; one declined to bid and AIRMAX was awarded the contract in a strict, low bid procedure. I estimated the work with the expectation that we would benefit from using the Collom sanitizing tool and calculated installing 32 access doors. The project engineer told me our competition estimated installing as many as 250 access doors. The sanitizing tool worked so well we installed only eight doors. The entire project was completed in less than 400 man/hours and resulted in an astounding labor saving of over 70%. Quality control testing was performed by the university and did not require any corrective action from us.

The men operating the Collom sanitizing tool were greatly impressed with its accessibility and thoroughness. The project engineers were equally impressed. After viewing the work on the video monitor they were convinced with its effectiveness. We now have two additional buildings ahead of us with the university and we look forward to continuing success and profitability.

Sincerely,

Michael Lorion

Clean Air

IAP IndoorAir Professionals (IAP) Inc.
A Jacques Whitford Company

15 Citizen Court
Unit 18
Markham, Ontario
Canada L6G 1A7
905-415-5949 bus.
416-495-8614 bus.
905-479-9326 fax

November 25, 1996

Mr. Goran Anderson
Collom International Inc.
305 Cayuga Road, Suite 140
Buffalo, New York, 14225-1939

Dear Mr. Anderson:

We would like to take this opportunity to report on the success we had in completing an extremely difficult project at the Metropolitan Toronto Zoo this past fall. Integral in our success was the utilization of the Collom Duct Cleaning System, namely the Collom cleaning heads and the negative air ULPA 2000 machines manufactured by Airtek in Buffalo, New York.

This project involved the cleaning of underground transite ducting in one of the zoo's animal pavilions. Access to the duct system was possible only through the diffuser branches protruding through the pavilion floor. To compound the critical nature of this project, laboratory results indicated areas within the system where bacteria counts were in excess of 10,000 cfu/cu.metre. The Collom system was used with great success to clean, sanitize and then coat the ductwork, with safe containment of the debris collected ensured by the use of the Collom ULPA 2000 machine negative air collector. Without the use of the antimicrobial treated ULPA filters we could not guarantee safe containment of the bacteria present in the system.

We strongly believe that the superior technical capabilities of the Collom Duct Cleaning System not only allowed us to perform this very difficult project successfully, but was integral in swaying the Zoo's Management Board in selecting our proposal.

We thank you and Airtek for your cooperation and continued success in your research and development efforts.

Sincerely,

Gus Mitropoulos, P.Eng.
General Manager

AUTHORIZED FOR THE COLLOM DUCT CLEANING SYSTEM
World's Most Advanced System For Duct Cleaning

# INDOOR AIR PROFESSIONALS

17 TECHNOLOGY DRIVE
EAST SETAUKET, NEW YORK
(516) 751-4300 Fax (516) 751-0868


## Fax Cover Sheet

**Date :** September 21, 1995

**Pages :** 1

**To :** Goran Anderson

**Company :** Gollum International, Inc.

**Fax Number :** 716-631-8124

**From :** Bob Coughlan

**Subject :** White House

My Dearest Goran,

As I mentioned to you earlier today we are cleaning part of the White House this week. As you can imagine security is extremely tight. They have insisted we do not use the 'White House' in any of our advertising. They have replaced 90% of the duct work in the White House and we are cleaning parts of the old duct work where they had debris discharging from the diffusers. So far we have cleaned the Presidents private office (the 'Treaty Room'), Lincoln's bedroom and the Queen's bedroom. We are working with an asbestos abatement team and have so far pulled out a significant amount of debris including asbestos. We are scheduled to be finished on Friday.

I'll talk with you soon.

## SELECTED INTERVIEW SUMMARIES

Nomination 9718

**Jack Barrett, CEO and President**
**COLLOM™ International, Inc.**
**Buffalo, New York**
Phone interview by E. Tons on 12/09/96

The most innovative aspect of the COLLOM™ nomination is the nozzle(s) It can propel and rotate the cleaning unit in the duct and provide an "air cutting knife" capability for cleaning. The COLLOM™ nozzle and the air hose are very easy to operate through small and large ducts, sharp turns and up to 100 feet in any direction. The initial equipment costs may be higher than with old methods (skipper balls, brushes, air whips). When in use, the COLLOM™ system cleans ducts cheaper, faster and safer than other methods that use low pressure air, and whose quality of cleaning is lower. These older methods cannot go up to 100 feet, which limits them to residential jobs.

The nozzles were designed - invented - by Johan Faxon in 1989. For about 4 years the COLLOM™ system was tried and used in a number of countries in Europe and elsewhere. Then Faxon and Andersson got together in Sweden and decided to go for the large market in the USA. They, with the help of investors in the US, established COLLOM™ International, Inc. in May 1993. COLLOM™ developed a licensing program and trains new licensees. Barrett is involved in administrative work, but is also close to technical developments.

Barrett pointed out that Mr. Castellani lives most of the time in Florida and has heavy monetary investment in COLLOM™. He is very important for the organization, but has very little interest in technical details.

Barrett says that Faxon is an old and shy inventor who does not speak English and lives in Sweden.

Andersson's office is next to Barrett's. The address given on the nomination is his house address near Buffalo.

**Larry Brady, President**
**Indoor Air Professionals, Inc.**
**Bloomfield, Michigan**
Visit to job site by E. Tons 12/12/96

I often visit Birmingham, Michigan, and Brady's Indoor Air Professionals, Inc. is only a few miles away. On December 12, 1996, Brady took me to an actual job site where

the COLLOM™ System is used. It was a three story office building of about 30,000 square feet in floor area. The top two floors were occupied by lawyer's offices and they wanted the work to be done at night, even though the noise level is low during the operation.

The machinery and equipment are transported by two vehicles, a van and a small truck. The air power to the nozzle is supplied by a sizable compressor. There are different size nozzles for use indifferent ducts. One of them for instance, has an air jet stream which cuts the dirt into small pieces, moves the nozzle in a circular motion along the duct walls, and propels the nozzle forward.

The vacuum system picks up the chopped up "dirt" (The dirt looks and feels like felt built up of fibers and dirt over the years), and also quite large pieces of debris sometimes left during original construction of the building.
This solid material is picked up by the vacuum, then goes through four stages of filtration, with the last filter being HEPA filter with efficiency of 99.97% @ 0.3 microns. The air after filtering is so clean that it was exhausted in the hallway of the building.

The maximum size of the ducts in the building was about 24 inches. There were some crack-joint openings which were sealed. They had to make only a few cuts in the ducts to accommodate the COLLOM™ nozzles The longest reach was about 50 feet. The operation was run by a crew of 4. They had done the top two floors and were working on the first floor.

Brady thinks that the COLLOM™ procedure is a quality operation. He entered the duct cleaning field after being convinced that it is a good investment. He was not interested in other cleaning methods. He also does not want to say that he can always compete in price with other methods. He thinks that he has a good service. He has done more than 100 jobs and the business is growing. What does it cost? It varies greatly, especially on industrial and hospital jobs. Brady says that a two-story, 2000 sq. ft. house with ducts exposed in the basement may cost about $400. One thing is clear, the COLLOM™ method works and seems to be doing a good job. They have also developed detailed specifications for the operation, which keeps the quality up.

**Goran Andersson, Consultant**
**Air Ducts, Inc.**
**Williamsville, New York**
Phone interview by E. Tons 12/09/96

The inventor of the COLLOM™ System , Mr. Faxon was a race car engineer and general inventor. One of his friends was in the ventilation business and was complaining about problems of cleaning air ducts. Faxon worked on the idea and came

up with the system. Andersson, a mechanical engineer, was living in the same city. He helped Faxon with compressors and testing machines to promote the idea. By 1992 they decided to go overseas. In 1993 COLLOM™ International was established.

The nozzle is very important in the system. It travels along and around the duct walls and the high pressure air cuts the deposits. The duct system is under negative pressure, during the operation, and all loose material is removed by a large vacuum machine. The nozzle is attached to a flexible hose which can travel up and down in all directions as needed. The time saved is 30% - 100% with the COLLOM™ method.

Andersson is now the Director of Marketing outside U.S.

**Colin Hurren, President**
**Penn Air Group**
**Cypress, CA**
Phone interview by E. Tons 12/08/96

Mr. Colin Hurren from the Penn Air Group has used the COLLOM™ System for about one year and has done about 40 jobs, costing about 1.5 million dollars. His main goals are: (1) Safety during the cleaning operation, (2) 100% owner satisfaction ( good job), and (3) price.

He has been in the business for over 20 years and has used a number of cleaning methods. He has always looked for better ways to clean ducts. The COLLOM™ System is giving the best results. (cost effective).

Safety is achieved by applying and controlling a negative pressure in the ducts. To satisfy the customer, the contractor has to provide photographic evidence that the ducts are clean.

The nozzle is a good innovation, but also the whole system is an improvement over previous methods Hurren has used.

## EXHIBITS

Nomination 9718

The following exhibits illustrate the COLLOM™ Duct Cleaning System:

1. COLLOM™ Brochure

   The brochure claims that the COLLOM™ System is the world's most advanced system for duct cleaning. The system provides advanced high tech sanitized cleaning for all types of air ducts regardless of their dimensions, shape or form. Other cleaning systems have proven either unsatisfactory or cost prohibitive. The COLLOM™ System has been patented under United States and International patents. On the second page of this exhibit, a cleaning nozzle and attached hose is shown full size.

2. COLLOM™ AT A GLANCE

   The one page fact sheet summarizes the cleaning problems, the solutions, the COLLOM™ company, their technology, the principals in the company and their goals. It states that their cleaning is up to 30% faster than conventional brushes and air whips. COLLOM™ International, Inc. was established in May 1993. (The methods originated in Sweden in 1989) The basic tool is the COLLOM™ cleaning nozzle which acts like an air knife. The effective cleaning range is about 100 feet.

3. COLLOM™ NOZZLE DATA SHEET

   The data sheet shows 7 different nozzles. They are made for different size, shape, and character of ductwork, and also for different tasks. This is probably the most innovative part of the COLLOM™ System.

4. NEW COLLOM™ SANITIZING AND COATING SYSTEM

   A one-page summary gives data on equipment for sanitizing and coating of ducts after they are cleaned. Special spray nozzles are used.

5. COLLOM™ AUTHORIZED LICENSEES IN USA

   There were 11 licensees in the USA in August, 1996. The states involved were California, Florida, Illinois, Indiana, Michigan, New York, Ohio, and Pennsylvania.

6. COLLOM™ INTERNATIONAL LICENSEES

   There were 8 International Licensees in August 1996. They include Canada, England, Germany, Italy, Kuwait, Malaysia, Spain, and Sweden. Since then Singapore has been added.

7. THE COLLOM™ CONNECTION

Worldwide corporate news of the COLLOM organization.. Lists new members, recent jobs technical tips, research, and development.

8. KEEPING YOUR DUCTS IN ORDER

An article in Engineering Systems Magazine, September 1996 talks about duct cleaner companies that may contaminate a facility. It is pointed out that the use of negative air pressure is important. Effective duct cleaning requires sophisticated equipment with an effective range of 100 feet in each direction from small access holes such as the COLLOM™ technology.

9. THERE IS A DIFFERENCE

This is an illustration from a 45-page slide presentation giving information for COLLOM™ licensees. These tables show the comparison beteen the COLLOM™ System and other cleaning systems for ten technology methods.

10. ITALIAN ARTICLE

This is an article from RCI - Riscaldamento Climatizzazione Idronica, Gennaio 1996, and a translation into English. The article describes the COLLOM™ method.

11. MECHANICAL CLEANING OF HVAC SYSTEMS

This the cover of installation specifications that specify the COLLOM™ System for air duct cleaning. The specifications are about 10 pages in length and are available if needed.